

ERIC NEWTON
THE MEANING OF
BEAUTY

WITH FORTY-EIGHT PLATES



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TO
DAVID OPPENHEIMER
WITHOUT WHOSE ACIDULATED COMMENTS AT AN
EARLY STAGE THIS BOOK MIGHT HAVE
TAKEN A DIFFERENT
DIRECTION

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INTRODUCTORY

I HAVE been goaded into writing this book chiefly by the doubts and hesitations that have always arisen in my own mind whenever I have found myself compelled to use the word 'beauty', but partly by the question, familiar enough in discussions on contemporary art, 'Why have so many modern artists abandoned the search for beauty?' The double implication, that it is part of the artist's duty to search for beauty and that some contemporary artists of unquestioned reputation have failed to find it or have refused to look for it, seems to need a convincing answer. The stock answers - 'The creation of beauty is *not* the artist's principal task' and 'Our sense of beauty is so capable of development and expansion that it is dangerous to use the word as though it had an absolute value' - are far from satisfactory. The first provokes, in its turn, the reply that the creation of beauty may not be the artist's major preoccupation; but, none the less, artists are invariably judged by their power to create something that strikes the beholder as beautiful. The second leads to the further question, 'But surely somewhere there is a yardstick? Here is a word for which there is no synonym, denoting a value that sooner or later becomes a major part of every human being's experience; do you tell me that it has, to all intents and purposes, no meaning?'

This book, then, is about the meaning of a word. It is certainly not a treatise on aesthetics. Except within the vaguest limits, beauty cannot be described: therefore it cannot be defined. It cannot be measured either in quantity or quality: therefore it cannot be made into the basis of a science. It has

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always proved impregnable to the frontal attacks of the aestheticians. None the less, it would seem reasonable to stalk the word, to outflank it and creep up on it from behind. Eventually one must have the courage to meet it face to face, but a preliminary reconnaissance demands subtlety rather than courage. Beauty, let us say, is a recognizable quality; yet each person would draw up a different list of beautiful objects and give them different aesthetic indices. All that can be agreed upon is the nature of each man's reaction to his own list. In each case the sensation is not merely pleasurable, but pleasurable in the same way, and the sensation produced by objects at the top of the list is an intense one. A's list may be headed by the Sistine Madonna, while B's starts with the Blue Danube waltz - objects so dissimilar that no scientific method could possibly isolate, still less describe, the common factor which A and B would agree to call 'beauty'. And yet the sensations inspired by them have at least the common factors of pleasure and intensity. What kind of pleasure? And why so intense? Reasonable questions, surely, yet the philosopher who attempts to answer them is playing a game of chess against desperate odds. Let him screw up his courage to move a single pawn, and he finds himself committed to a battle from which no one has yet emerged victorious. He is engaged - poor soul - in a struggle with his Creator, and his only weapons are words.

It is fascinating to watch the play of these doomed philosophers. Their usual method is that of the player who attempts to 'take' his opponent's Queen by substituting one of his own pieces for it. Words are his only substitutes. Here, in one corner, is Croce substituting for 'beauty' the word 'expression' or 'the expression of intuition'. There are the Freudians substituting 'wish fulfilment' or 'sublimation'. Kant and his followers think that 'play' is a serviceable pawn. Herder relies on 'empathy'. To enumerate all the known gambits would be boring. One need only consult a bibliography of aesthetics to

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realize what endless variations are possible. But one common factor emerges. They are all examining states of mind; they are not looking at beautiful things or listening to beautiful sounds. Their books are seldom illustrated. They are not analysing an inherent quality, but its effect on themselves.

There seems to be no valid reason for being more interested in an emotion than in its cause. I received recently a letter from a scientist in which the following sentence occurred - 'One of the laws of thought ought to be, "The way in which a phenomenon is manifested depends on the way in which it is observed".'

This is so obviously true that it must be just as applicable to the atomic structure of matter or the speed of light as to the nature of beauty. What man calls 'colour', for example, is merely a sensation in the human eye caused by white light that has been interfered with in certain ways - usually by the molecular structure of the objects that reflect it. The nature of 'colour' depends on the construction of the eye. The word 'colour' can have no other meaning, but all one can do about it is to preface every attempt to describe a phenomenon by some such phrase as 'within the limits of my own sensations and perceptions, and of the instruments at my disposal, I believe the following to be the truth'. I am willing to admit these limitations, but I refuse on that account to believe that they cannot give me a serviceable account of the phenomenon perceived and examined.

It may be true, for instance, that the eyes of certain animals are better adapted to observe certain aspects of light than our own, and that one could imagine sensory organs which would react far more sensitively than our own to all kinds of wave-frequencies, which certainly exist and for which we have invented names, but of which we have no direct experience. But since we are ultimately concerned with the manner in which phenomena perceived by the human being produce in

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him certain emotional changes, it is useless to consider the phenomena that are unperceived and therefore produce no change. It is equally useless to remind ourselves that between reality itself and our limited consciousness of reality there is an enormous gulf. Since total reality is beyond our consciousness, we have not even a language that could express it. But what we can do is to deduce a universe from our experience of it. That is not quite the same thing as to describe our experience and then to mistake the description for a description of the thing experienced.

Consider for example that biggish group of philosophers gathered round St Thomas Aquinas, and his disarmingly simple '*Id quod visum placit*' To say, 'Whenever I see this I am pleased therefore it must be beautiful' needs no massive intellect. To say no more than that is almost to refuse to make the first move in the game.

Or was St Thomas, perhaps, unaware of the issue? Perhaps, in his day, that precious instrument for beauty-divining known as 'good taste' had not been invented. Perhaps he was not conscious that taste could be good or bad. If so, he was in a poor position for divining beauty. We of the twentieth century have built a kind of tower on the outskirts of the walled realm of beauty. Only by ascending that tower can one catch a glimpse of the delights within the wall. Free admission to the tower of good taste is, it seems, a privilege of a handful of sensitive, educated people. But they, or some of them, are graciously willing to admit such of the outside world as will pay a few pence, read a few books, and repeat the creed formulated for their benefit. From the top of the tower of good taste one can see a grand sweep of the surrounding country. And yet even from this vantage point the walls that encircle the domain of beauty always seem to be shifting. A map of these walls made in 1850 would be hardly recognizable as an indication of where they stand today. The Elgin Marbles,

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a bronze from Benin, a pitchpine dado, a picture by Albert Moore, a picture by el Greco, a church by Pugin, a factory by Gropius - are they inside or outside the wall? Were they always? Will they be a century hence? Would Sir Joshua and Ruskin and Roger Fry have admitted them all? Surely not. And surely it is somehow healthy for standards of beauty to shift this way and that. Evolution is at work. Would it not be a disaster if beauty could be reduced to a formula?

For the simpler, the more measurable things of life words are adequate. A man sees a rose or a mountain, he feels hot or hungry: at once it becomes necessary to invent the sounds 'rose', 'mountain', 'heat', 'hunger'. But a word, like a coin, should have the same value for everyone regardless of differences between the men who use it. A rose is a rose for us all, since botanists have decided on certain characteristics that belong to roses and to no other flowers. No one has a right to say, 'To me this is not a rose.' Heat, despite the different degrees of comfort or discomfort occasioned by it, can be measured by instruments. The words that stand as tokens for a rose or for heat illuminate the same patches in everyone's mind and illuminate them in the same way.

But some words are neither so amenable nor so definable. The vague but characteristic effulgence they shed over vast tracts of the mind marks them out as doing a very important duty, but doing it ineffectively. The word 'god', for example, can't be treated like half a crown. Its value has been debated since civilization began, between men who consider it to be the major part of a man's banking account, men who regard it as worthless, and men who simply don't know what it is worth. And yet without the word the very debate would have been impossible.

Such words have always goaded sensitive men; it is irritating to find oneself in the presence of something that is both important and indefinable. Vast quantities of literature have

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come into being under the spur of this irritation vast tracts of human experience have been examined. The word 'god' has focused man's mind on religion and the word 'beauty' on aesthetics. In each case the attempt has been to give the word an agreed value. And in each case the attempt has failed.

It was bound to fail. Confronted by the Sistine Madonna or the Blue Danube waltz, each man experiences different degrees of 'pleasure' confronted by a temperature of 80 degrees in the shade, each man suffers different degrees of physical comfort or discomfort. But no lover of painting or music can be confounded by a thermometer. He is himself the thermometer, and even though that does not affect the nature of the object that gives him the aesthetic sensation, he cannot determine its absolute aesthetic value. He can only point to the origin of his aesthetic pleasure, describe the pleasure he feels rather vaguely but with a degree of enthusiasm that leaves his sincerity in no doubt, and then conclude that the cause of his pleasure must be a thing of beauty—that which, being seen, pleases.

The syllogism contains a fatal flaw which any student of logic would note with glee. A seen thing—that pleasure is beautiful. This thing that I see pleases me. Therefore it is beautiful.' How much more satisfactory it would be to say, 'Beauty consists in x-ness. There is an unusual percentage of x-ness in this thing. Therefore this thing is unusually beautiful.' The omission of the first person singular from the second argument makes it logically flawless. It also makes it useless, because of the lack of my instrument for measuring x-ness. The first argument falls back on the first person singular, and again the argument is invalidated, since it makes the quality it attempts to define depend on the percipient and not on the thing perceived. 'Therefore it is beautiful to me' is the only possible conclusion. 'To you it is a rose, to me it is my heart,' says the song writer, thus making it clear once for all that the value of the 'it' in question depends on whether a botanist or a lover is speaking.

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But logic, that rather clumsy machine for detecting fallacies, can never succeed in discovering truth. Having exposed St Thomas's fallacy, and having raised a pair of shocked eyebrows on finding that so good an Aristotelian should have paid so little attention to his master's teaching, logic may retire. Logic can get rid of a certain amount of encumbering dead wood, but whoever attempts to analyse beauty is concerned with a living growth. And for that another method must be used.

It is clear then that an inquiry into the nature of visual beauty must be prepared to examine two sets of phenomena — the quality itself and the emotion it produces. It is equally clear that the presence of the quality is only revealed by the presence of the emotion. And one might easily be tempted to conclude that, since the only proof that beauty exists at all is the fact that human beings are susceptible to its power, therefore the only clue to its nature is to be found in an analysis of the emotions. But it is surely the pit into which most of the writers on aesthetics have disappeared: the fruits of their labours have been rather psychological than aesthetic. To write a book on the aesthetic emotions in the hope that it will shed light on the nature of beauty seems to me rather like examining the construction of a mirror in the belief that by so doing the nature of the universe reflected in it will be revealed.

Certainly if our only proof that the universe existed were that we possessed a mirror that reflected it (and there is a school of thought which would consider that to be a fair, though possibly an over-simplified, statement of the truth), science would be under an obligation to make a scrupulous examination of the mirror before coming to any conclusions about the reality of the phenomena reflected therein. Equally, the aestheteian is bound to consider very carefully what processes take place in the beholder who is brought into contact with a thing of beauty. But that is merely a preliminary step, and one that many

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philosophers and psychologists have taken. To stop there is to take note of the symptoms of a disease without inquiring into its cause.

Plenty of research has been done on the nature of the symptoms. It is not my intention to add to it, but it will be useful to enumerate some of its more obvious features. Pleasure, as St Thomas pointed out, is its recognizable characteristic. Beauty is a desirable commodity. But not all men are equally susceptible to it. Nor are all men agreed about its abode. Moreover, it varies with period. It is subject to the laws that govern fashion. The unadorned horizontal rhythms of a modern block of flats produce unmistakable symptoms in the twentieth century. No such symptom would be observable if the generations that produced Rheims Cathedral were confronted with the same block of flats. Sir Christopher Wren's contemporaries would have been even more impervious.

It also varies with its geographical position. What is beautiful in England is not necessarily so in India, still less in New Guinea. Variations in national or racial standards of beauty are as noticeable as in period standards.

All this is common knowledge. It would hardly be worth noting were it not that, however obvious, it tends to be forgotten as soon as the inquiring mind begins to concentrate on the particular case. Variations in personal sensitivity can easily be accounted for. Sensitivity is largely begotten by experience, yet human beings continue to quarrel among themselves as to what is or is not beautiful, rather than to ask who is or is not capable of recognizing beauty. Variations in period-sensitivity can be analysed with some degree of accuracy, and a set of conclusions can be drawn from them in which the type of beauty acceptable to a given period is seen to be the result of an inevitable chain of causes and effects, which ensures that the *Zeitgeist* shall always find its expression in the taste of the period. And yet the appearance of a new

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link in the chain, bringing with it a new set of rhythms or curves or colour harmonies, invariably causes confusion – not merely an inability to recognize the new form of expression as beautiful (that would be understandable), but an emphatic denial that it is beautiful, an assertion that because the rash has not appeared the bacillus does not exist. If therefore we regard beauty as a quality whose presence is only revealed whenever it is reflected in the mirror of the human soul, we must admit at the outset that the mirrors that reveal it are extremely imperfect: that the majority of them are not sufficiently polished nor sufficiently coated with mercury to give a satisfactory reflection, that even if only those that are well polished and well coated are taken into account, we still find remarkable variations dependent both on time and place, and that in the case of the present day we are dealing with a set of mirrors that are only half constructed. Having made these admissions, it becomes clear that the scientist's approach – the method of collecting the maximum amount of evidence and then constructing a theory that will account for it – is of little use. The evidence of defective mirrors and half-made mirrors is useless. The scientific method, applied to the rough-and-tumble of everyday life, has been called 'Mass Observation' – a method I both mistrust and dislike because it is too closely concerned with 'the average', 'the typical', 'the normal'. If beauty can only be measured in terms of sensitivity, then let us by all means ignore all but the most sensitive men when we are collecting our data.

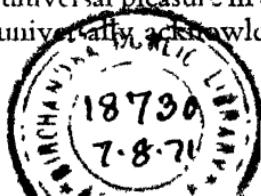
Nevertheless, the Mass Observation method has its uses. Like a map, it enables one to take in wide stretches of country and note their main features. For detail it is useless, but it can provide a useful framework for detail. I confess that I have done very little by way of research into the 'average' man's reaction to beauty, nor have I drawn up tabulated lists of the objects or experiences that the 'average' man considers

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exceptionally beautiful. I am fairly sure that to do so would add very little to the data that one normally accumulates in the course of one's experience. A set questionnaire often defeats its own object by inducing a self-conscious habit of mind in the questionee, especially if he is called upon to analyse his sensations rather than his actions. 'How many potatoes do you usually eat every day?' can be safely asked without setting up a too violent defensive reaction; but 'How much trouble would you take to see a Picasso Exhibition?' would probably twist the victim into an analytical state of mind that would distort the real facts. On the other hand, it is not difficult to find out what things give the average man and woman the most aesthetic pleasure; to what lengths the average man and woman will go in the pursuit of aesthetic pleasure, to what lengths he or she will go in order to avoid displeasure. One knows, for example, that certain kinds of music cause certain sorts of people to switch off their wireless sets; and finally, one knows that certain kinds of objects and experience strike different classes of people as being beautiful, and that in general what is known as 'good taste' seems to have some connexion with what is known as 'education'.

These interesting variations do not in themselves prove that beauty exists purely in the eye of the beholder. A million different readings from a million defective or sluggish thermometers do not prove that heat exists only in the instrument subjected to it. What makes the question of 'good taste' loom so large in considering standards of beauty is the habit of regarding works of art as the only touchstones. For a reason that must later be analysed, 'taste' in certain kinds of experience is so little subject to variation that the word becomes almost unnecessary.

If pleasure is to be the only guide to beauty, and if one is looking for something that gives universal pleasure in order to point to something that can be universally acknowledged as



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beautiful, the search soon comes to an end. True, there are plenty of things that give universal (or almost universal) displeasure. Bad health, cold weather, vermin, insufficient food, the smell of drains — the list is long and sounds absurd, and the mere absence of these unpleasantnesses does not in itself produce positive pleasure. Normal well-being can be left out of account in this preliminary reconnaissance. But on the credit side the list is shorter, and many of its items are open to debate. Certain natural phenomena are fairly universally recognized as more pleasurable than others — well-wooded country as opposed to moorland, mountains as opposed to plains, bright colours as opposed to dull ones — again the list could be extended indefinitely. But here the debate begins. Not every one prefers Switzerland to Holland or a carpet of bluebells to a hayfield. The word 'taste' bears its originative head again, and the question 'What is beauty?' begins to nag.

It begins to nag, but quite mildly. Devotees of the Fen Country do not usually lose their tempers with admirers of the Cotswolds. Nor do such devotees noticeably correspond to social or intellectual strata of society. 'Taste' in scenery is apparently not developed by education, nor have I often heard it suggested that there is such a thing as 'good taste' in scenery. Preferences are certainly developed by habit. The habit of close observation of a certain type of scenery develops into love, and love implies preference. But no one would suggest that the love of Lincolnshire was in itself more reasonable than the love of Gloucestershire, or that a more sensitive perception was demanded by the Black Forest than by the Bay of Naples.

The distinction between 'taste', which implies a preference for one set of characteristics as against another equally valid set, and 'good taste', which is a preference for characteristics which are presumed to be somehow more admirable in themselves than others, is an immensely important one. Preferences must be based on love, and love itself must be based on a set of

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values recognized, consciously or unconsciously, by the lover. Here or hereabouts are the roots of the problem of beauty. If those values, those initial stirrings of human perception and understanding which engender love, prove themselves in the end to be out of the range of analysis, then this book will have failed to move an inch nearer to the meaning of beauty or to explain the strange delight that a waterfall, a scent, a progression from tonic to dominant, a pattern of sculpt and gold, can give. I believe that analysis is possible, and I believe that such analysis must begin by recognizing a difference in kind between 'taste' and 'good taste'. If that difference exists it must correspond to a difference between two sorts of beauty which themselves differ in kind. If that essential distinction can be established, the possibility of discovering the true nature of beauty will have been brought perceptibly nearer.

The word 'love', which made its inevitable appearance in the last two paragraphs, is bound to arrive sooner or later. As soon as the individual becomes himself the measure of whatever subject may be under discussion, it turns out in the end that his only method of testing the results of his measuring is his capacity for love. Leave the individual out of the argument, substitute for him a machine made of glass tubes and mercury and a graduated scale, and you can dispense with the word. Otherwise no

The word is not merely pregnant. It has a massiveness that includes a hundred meanings, graded from mild preference to insistent demand, and a hundred effects on human conduct between unobtrusive kindness and wild self-sacrifice. It is a great bundle of threads that entwine themselves with every phase of human conduct. Question the meaning of any scrap of human activity from the digging of a garden or the drawing-up of a title deed to the painting of a picture, the founding of an empire or the sacking of a city, and one of the threads emerges.

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Why does the gardener dig ?

Because the soil must be prepared for the herbaceous border.
But why want a herbaceous border ?

Because at the appointed season it will produce delphiniums
and antirrhinums.

But why does he want delphiniums and antirrhinums ?

Because – well, because they are beautiful.

More beautiful than the untilled soil ?

Of course.

What makes them so ? By what *law* is the blue of a delphinium more beautiful than the brown of the earth ? By what *law* is the shape of an antirrhinum more beautiful than that of a clod of soil ?

I don't know. It's preferable somehow.

Preferable ? The man digging prefers blue to brown, antirrhinum shape to clod shape. Why ?

Well, he just does. He *likes* delphiniums and antirrhinums.

He *likes* ! Look at him: muddy boots, sweat on his forehead, dirty clothes, tired muscles. All that just for a liking of what he hopes will happen six months hence ? Surely liking is a feeble word ? Surely he loves the flowers ? But what makes a man love these things as yet unbom, so that he is now making a navvy of himself for their sake ? Is there a reason for this love ? Is it possible to draw up a list of lovelinesses with reasons *why* they are desirable ?

Here the reader may justifiably point out that I am confusing the enthusiasm of the lover with that of the creator. That the real reason why the gardener takes so much trouble is not that he wants to *enjoy* his garden, but that he wants to *make* it: that he is an artist and not a connoisseur – a producer, not a consumer, of beauty. I agree. But that does not invalidate my argument. The gardener creates in order that he may enjoy. The fact that he is a creative artist merely means that he is so convinced that delphiniums are preferable to soil that

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he is prepared to acquire skill and to sacrifice time and comfort in order to ensure that he gets them. And if, in such a case, the word 'preference' carries with it such an urgency of meaning, then the word 'love' can justifiably be substituted for it.

Have I slipped into the trap that so easily caught the philosophers? Am I still playing this game of chess with my Creator, using words for pawns and triumphantly crying 'check' when I substitute my 'lovability' for his 'beauty'? I think not. Surely I have made one small step forward. Surely the mechanism of love, that delicate relationship between the lover and the object of his affections, provides a kind of key to this locked door at which so many philosophers have hammered. For the lover never doubts that the object of his affections – be it a delphinium or a girl or a god – *deserves* his love. His attention is centred, not on his own besotted state of mind, but on the qualities in the beloved that produced it. And to the blind non-lovers who complain that he is wasting good affections on an unworthy object, he will reply with a detailed and spirited analysis of the qualities that have enthralled him. We are accustomed to laugh at his analysis. What he takes for his beloved's powers of repartee, we know to be merely a social manner; what seems to him intelligence is, to us, second-hand cliché: what appears to him natural charm, we recognize as the well-known snare of the siren. Certainly he may be a myopic imbecile. But he has at least had the courage to attempt that description of x-ness which the aestheticians have usually shirked. Even though he may be the victim of an elaborate set of illusions, he has drawn up his list of lovabilities instead of explaining that he is in a condition of 'empathy'. He has transferred his attention from his own state of mind to the object that produced it.

There is, of course, a difference between the gardener-delphinium type of love and the Romeo-Juliet relationship: the former is an emotional current that flows in one direction

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only, while the latter mysteriously operates in two directions. Unlike Juliet, the delphinium has no emotional attitude to her lover or to other potential lovers, with the delightful result, often pointed out by aestheticians, that her beauty kindles no possessive instinct in man. There is no need to fight for a place in the delphinium's heart: there is no fear that she will give herself to another and a more ardent gardener. The only struggle – and it is one that never seems to ruffle the complacency of the aestheticians – is to develop and preserve maximum sensitivity to the loveliness of the flower, the struggle to keep the aesthetic appetite keen.

If, then, one is to discover by the method of Miss Observation what things are to be called beautiful, and why, one must listen carefully to the recitals of lovers as they describe the perfections that have inflamed them. And if one is to understand these recitals one must be, quite frankly, a lover oneself. There is no difficulty there. The world is full of delphiniums and gods, all waiting for their human victims. But it is less easy for the victim to stand outside himself and analyse with a reasonable amount of detachment the emotion he feels – to account for it, to justify it, above all to prove that what he has assumed to be genuine charm is *not* the snare of the siren. To do so successfully, to submit the beloved object to the cold scrutiny of analysis and still to regard it as primarily lovable – to catalogue and describe it without losing sight of its lovability is difficult. In order to do so one must both feel and *think* about it. One must be both attached and detached, though it is not necessary to be both at the same time. Detachment must succeed attachment, but it exactly the right interval. In fact, here the analyst is faced with the same problem as the artist, of keeping his enthusiasm at full pressure and yet not allowing himself to be carried away by it. He must take his stand at the central point between the extreme of Romanticism and the extreme of Classicism. The Romantic observer pins his faith

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on feeling and cares little whether its impact disturbs the nice balance of his analysis: the Classic preserves his detachment and runs the risk of losing some of the original intensity of his emotion. Wordsworth's plea for 'emotion recollected in tranquillity' is not the creed of a Classicist insisting on an emotional head of steam to drive the poetic engine. It is the voice of the Romantic studiously reminding himself that the molten metal of fine frenzy, the raw material of his art, will not set in the poetic mould until it has cooled a little.

If beauty is to be classified into genera and species, pinned down and labelled like a butterfly, it is particularly important that the metal should be taken just at the right moment of cooling. Taken too soon, the result is sentimental gush, formless enthusiasm. Taken too late, the result is an aesthetic system in which beauty is a mere intractable lump, as cold as the moon and as distant as the stars.

So much for the spirit in which the inquiry must be undertaken. Now for the nature of the inquiry into beauty itself. Let me return to that ultimate starting-point where St Thomas Aquinas sits doggedly at his desk asserting that beauty is that which, being seen, pleases. What are the consequences of his bald statement?

Beauty, says St Thomas, gives pleasure to the beholder. If you want to track beauty to her lair, find a man who is pleased, discover what has pleased him, and you have a sample of beauty.

Yes, but what *process* has caused his pleasure? What has happened inside him to turn an image on his retina into a feeling of happiness in his brain (or his mind, or his soul, or what you will)? It is certainly not his eye that is pleased. Surely one thing only can cause pleasure or increase it - namely, the gratification of a desire. He *wanted* something, this man who has just seen and been pleased with what he saw. He had a hunger, and his hunger has been satisfied.

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If pleasure is the result of gratified desire, then, if one could only look into a man's mind, find out just what desires are lurking there, and note the exact shape of the vacuum that needs filling; whatever would exactly fit the hollow spaces would, for him at least, be made in the shape of beauty's own self.

Desires are not accidents. They are conditioned by habit. The man with no experience of light has no hunger for light: therefore he can have no pleasure in light. The man who has never seen a tree, smelled the earth after rain, heard the thrush sing or the waves break, felt the sun on his cheek, can never long for such things. His desires are the outcome of his experience.

St Thomas's man is only pleased by the sight of things that are like, or rather like, the things he has already experienced. His notion of what is beautiful is conditioned by his memory of what he has already seen, heard, smelled, felt, tasted. This, surely, turns the argument upside-down. We can no longer conclude that a thing is beautiful because A likes it. We must say that A's experience of life has given him certain appetites, and that things *become* beautiful in proportion to their power to satisfy his ever-changing appetites. For he is always accumulating new experiences. Every day brings him a new sight or sound, and every new sight or sound gives him a new hunger.

'But,' the reader may object, 'can a man only like things with which he is already familiar? Are there no basic hungers? Doesn't the baby thrill with aesthetic pleasure at the first contact of its lips with its mother's breast? And can the grown man take no pleasure in the sight of his first mountain or his first sunset?' Unfortunately the baby can give no evidence beyond a gurgle which his parents choose to interpret as an expression of inner bliss. Moreover, even in the womb, the baby has already known hunger and acquired the habit of appealing to it. But the evidence of adults shows conclusively that

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experience and desire are intimately connected. Love (of which desire, the will to take, is one half) is engendered almost entirely by habit. Patriotism, for example, is almost universal, and patriotism is hardly more than the result of a life spent in a certain environment. The Italian acquires a love of olive trees and blue sky through the constant sight of them, of spaghetti by the constant taste of it. These and a hundred similar loves combine to produce a love of Italy which pure reason cannot defend. For pure reason can never prove that an olive is in itself more lovable than an oak. The woman whom the native of Uganda regards as beautiful is based on the women he has seen in Uganda, just as the English man's type of female beauty is based on English women. There can be no fixed standard of beauty where there is no common fund of experience.

Granted, then, that beauty is conditioned by appetite and appetite by familiarity, much still remains to be discovered. Things are certainly not equally beautiful because they are equally familiar. Pigs and horses are equally common objects of the countryside, thistles are commoner than wild roses, blades of grass are commoner than thistles. How is one to account for the conviction that such things possess different degrees of visual beauty? It is useless to suggest that some things are better proportioned than others, more harmoniously shaped, better in colour. Whence do we derive our standards of proportion, shape, or colour? Unless we can refer to some such standard, who has the right to assert that a pig's legs are too short? Too short for what? For the pig? Obviously not that, or pigs would have developed longer legs in the course of evolution. For beauty? But the legs on a chest of drawers are even shorter, and yet no one objects that a chest of drawers is inherently ugly. It is easy to say that a horse's neck is nobly curved, but what constitutes nobility of curvature? Can one kind of curve be noble in its own right and another lacking in

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nobility? And what if one were to discover, on looking more closely, that the curve of a horse's neck was identical with the curve of a pig's backside?

Questions of this kind may seem tiresomely academic. I have a good deal of sympathy with the man who is content to prefer a horse to a hippopotamus without wanting to know why. Even if the reason why could be demonstrated mathematically, what difference would it make to him? The horse would be no nobler, the hippopotamus no less uncouth. At first sight it would seem a waste of time and thought to puzzle out laboriously and rationally what the eye can grasp instinctively and effortlessly. But when one remembers that this remarkable capacity of the eye to appraise the beauty of Nature breaks down when confronted with works of art, and breaks down so completely that no aesthetic yardstick can be discovered that will satisfy even two experts, the question becomes less academic. The difference between a horse and a hippopotamus is in some way not the same as the difference between a Titian and a Picasso. Yet the two differences must be examined and contrasted before we can realize what kind of problem confronts us. And if no Titian nor Picasso can put brush to canvas until they have stocked their visual memories with the shapes of horses and hippopotami, and the colours of earth and delphiniums, it follows that this preliminary question of man's experience of Nature, however academic it may seem, must be tackled before approaching the more difficult problem of man's attitude to art.

So much for our preliminary striking of the world. The reconnaissance has done nothing by way of storming the citadel, but it has suggested a plan by which the citad may be stormed — to think of the beautiful as a special variety of the lovable, in which the emotional traffic moves in one direction only, and to realize that the lover must not only be (as he always is) articulate but also in full possession of his analytical faculties.

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Roughly speaking, it would seem then that such standards of beauty as exist are formed by a man's personal experience of the visible world. Visual experience builds up a vast stock of visual memories, and the visual memories bring in their train a set of corresponding visual appetites. The visual experiences are, as it were, a set of solid objects: the visual memories are like moulds of those objects - hollows waiting to be filled. Only further experience can fill them. And only visual experiences of a similar shape will fill them satisfactorily. Experiences of a different shape will certainly occur, but until they have in their turn produced visual memories and visual appetites, they will not be recognized as pleasurable. What, then, has to be done in any analysis of the nature of beauty is to examine the general nature of the phenomena that surround us and have formed our appetites, and, having done so, to discover whether these phenomena are not governed by determining laws. For it is the law behind the phenomenon that is all-important. The human mind, surrounded by an extraordinary diversity of experiences, soon begins to correlate them, to classify and reconcile them and to discover their common factors. Intuitively it begins to deduce a set of laws, and the riper the experience the more complex the law deduced. Any experience which appears to contradict the law is a disturbing, if not an intolerable, miracle. The sun rises every day - a surprising phenomenon until one says to oneself 'as regular as clockwork', thereby postulating a clock or some equally rhythmic mechanism to account for it. The phenomenon then ceases to surprise. Then comes an eclipse of the sun: surprising again, until one postulates another clock with another rhythm and a longer pendulum. Again surprise diminishes. The intolerable miracle has become another example of the law-abiding behaviour of the universe. The new experience has made it necessary to discover another law to contain the old law.

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Beauty, I submit, can be described as law-abiding behaviour, and the response to beauty an instinctive recognition of the existence of law behind behaviour. There is no need to formulate the laws: all that is necessary is a conviction that law exists, and that since it exists it must manifest itself in some kind of pattern, and that in the ultimate analysis every pattern can be expressed in terms of mathematics. The origin of beauty is only to be found in a study of God's Geometry. Finally, that Geometry must be examined at once passionately and dispassionately. The thermometer must itself diagnose the cause of the temperature. It is a task worth attempting.

To point to that mathematical basis is one half of the task - the half that concerns itself with beauty in Nature. The other half concerns itself with beauty in art. The pattern of the universe is of such extraordinary complexity that the human mind can never grasp it fully. None the less, if the human mind does not grasp a portion of it, the universe becomes meaningless. Or rather it becomes chaotic, and chaos is the opposite of beauty. From time to time different aspects of the pattern imprint themselves on the minds of exceptionally sensitive men, and those men, in their endeavour to express their delight in what they have discovered, become great artists. These attempts of theirs are infections, whole generations catch their enthusiasm, become more and more acutely conscious of the particular aspect the artist has revealed. Such mass enthusiasms have the effect of turning a floodlight on to some particular fragment of life, isolating it, simplifying it, intensifying it - making it lovable, and therefore beautiful. Once a small corner of it has been thoroughly illuminated, posterity will always have a clear vision of that corner even after the illumination has died down. But the universe is inexhaustible. The floodlights of the past, remarkable though they have been, have only picked out a negligible handful of the interwoven patterns that await discovery. It might have been thought

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that the Greek sculptors had turned such a fierce light on to the pattern-possibilities of the human body that nothing remained to be discovered. Yet the Italian Renaissance, approaching the same area of experience from another direction, discovered a set of pattern-possibilities undiscovered by the Greeks. Pheidias did not exhaust the mine. Michelangelo tapped another seam, Rubens another, Degas another. The whole world awaits the discovering eye of the artist. And once he has made his own fragment of discovery, he has thereby added to our sense of beauty. The phrase we use to explain this fundamental truth, 'his work is beautiful', is a misleading phrase. It presupposes that he has *created* beauty where none existed. What he has, in fact, done is to lift a corner of the veil and reveal beauty. The artist can no more create beauty than the scientist can create truth. The scientist measures relationships in the existing universe. The artist divines such relationships and restates them in clarified form. Both of them are engaged in 'understanding' the universe - the one using intellect, the other emotion. Both of them make extracts from the universe. The scientist's extract is called 'truth' and the artist's 'beauty'.

But it is clear that the complex 'pattern' of the universe, from which the artist's comparatively simple extract is made, has been arrived at by a process which has nothing to do with beauty. The only guiding principle in formulating that pattern is function. The pattern of the stars and of a nettle leaf are equally the result of the law of the survival of the fittest. The effort of the Galactic system to function as a Galactic system, and of the nettle leaf to be an efficient nettle leaf, is the factor that decides their form, colour, movement, and growth. The complexity of the resultant pattern arises from the interaction of different functions. For example, if the effort of a caterpillar to function as a caterpillar causes it to eat the nettle leaf, the pattern of the leaf will be spoiled. If anything interferes with the caterpillar's effort, the pattern of the caterpillar

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will be spoiled. To the human observer it is beauty that has been interfered with; to the designer of the universe it is merely that one function has been sacrificed to another.

Therefore the study of beauty in Nature involves the study of function – or at least a realization that natural beauty is a by-product of function. Whereas the study of beauty in art involves no such thing. What causes the artist to extract a fragment of the universal pattern is his *love* of the pattern. He presents it to us purged of its functional trappings, as a thing admirable not because it *works* but because it *is*. The spiral of a nautilus shell is the inevitable result of the growth of the nautilus. From the laws of growth it derives its own mathematical formula. But the same spiral in a work of art is there merely because the curve pleased the artist's eye. He may have guessed intuitively at its mathematical basis, but his only excuse for using it is his delight.

Such is the argument this book intends to pursue. It can be summed up in a sentence. Beauty in Nature is a product of the mathematical behaviour of Nature, which in its turn is a product of function; whereas beauty in art is a product of man's love of, based on his intuitive understanding of, the mathematics of Nature.

That may sound a dull theme for a book until one remembers the extraordinary complexity of mathematics and the even more extraordinary intensity of love.

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PHENOMENA sounds, sights, smells, tastes – can be divided into two classes, natural and artificial. It is an important division. The difference, from the point of view of the beholder (or listener, smeller, toucher, taster), lies in a difference of intention.

The intention behind natural phenomena cannot easily be criticized or questioned, since you, dear reader, and I are part of it. The clay might conceivably rebel against the potter's notion of a vase, for the potter did not make the clay. But since the Creator fashions both clay and potter, neither has the right to criticize the other. Only in exceptional moments of power-drunk egotism does man wish Nature otherwise. Here, for example, is the Duke of Dorset, gazing up at the steadfast thunder-clouds. 'How nobly they had been massed for him! One of them, a particularly large and dark one, might with advantage, he thought, have been placed a little further to the left. He made a gesture to that effect. Instantly the cloud rolled into position. The gods were painfully anxious, now, to humour him in trifles.' How carefully Max prepares one for the fantastic notion that perhaps once in a lifetime, and then only as a great treat, could the potter bow to the clay's puny sense of fitness, or the clay dare to criticize the hand that made it.

The cloud and the tree have been called into being by a set of forces quite unlike those which created the cathedral and the table. The forces that created the tree are also responsible for the creature who looks at it. The force that created the table is not.

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The nature of man's intention when he designs and fashions a table is a very complex and surprising one. So also is the effect of the table on his fellow-men when they look at it or use it. They have the right to wish it otherwise, since they stand outside the intention that produced it. And once they exercise that right, they begin to have what they are pleased to call 'good taste'. They are not part of the law that made the table. They have their own laws, and the tables *they* would fashion would be different tables. The bulk of this book will concern itself with those two strange phenomena – the creation of works of art by the artist and the enjoyment of them by his fellows. But this chapter must concern itself only with man's attitude to Nature. That must come first, for the basic fact is that man cannot make a table without first having experienced a tree. The tree is as much bound up with himself and the pattern of which he is a part as are two planets in the Solar System. If Neptune could modify or even protest against the weight and speed of Saturn, the delicate balance of the whole Solar System would be upset. Neptune itself would be involved in the consequent readjustment, for Neptune is only Neptune because Saturn is Saturn, and man is only man because a tree is a tree. Goodness knows what violent rearrangements had to be improvised throughout the whole created universe when that single thunder-cloud was moved to the left to please the ducal whim.

But if natural phenomena can neither be criticized (since there is no standard of values wherewith to compare them) nor altered with impunity (since they are so interdependent that a single alteration would upset their delicately adjusted balance), they can at least be examined dispassionately. Nature can be measured and described as a collection of phenomena. And it can be submitted to all manner of tests as a machine for producing phenomena.

That is the province of the scientist. He can measure the

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acorn and the oak tree, and he can describe the processes whereby the acorn becomes the oak tree. By doing so he can produce a good deal of useful material which the aesthete can eventually use. The scientist's search for facts must precede the aesthete's search for values. He has never ceased in that search since man began to be conscious that life could be examined and contemplated as well as lived and enjoyed.

It is sometimes disconcerting to the layman to note how meagre are the scientist's statistics in showing how little he has been able to understand the world he inhabits. But he has discovered a good deal even though he has failed to solve the major mystery. On the whole, he has been able to understand and describe the mechanics of the universe though not the power that keeps it in motion. He can describe the atomic texture of matter. I can watch the growth of a tiny tissue that turns a child into a man, a man into an oak, and the change that occurs in man's tissue whereby a handful of dust becomes a diamond. But he can not understand the nature of life or death. He can neither describe them nor can he account for them. That is intriguing. It would simplify the art critic's problem if he could go to the scientist for his data.

I am engaged on a study of the laws of beauty. I have decided that they are somehow dependent on the law of Nature. Will you kindly give me a complete list of the laws of Nature with a brief description of how they work? I will then deduce from them the laws of beauty. The list, alas, can never be complete nor the description adequate. Nevertheless the critic must do what he can with the incomplete list and the inadequate description. If science can only light half of his path, he can at least explore the illuminated portion. To do even that is something. Even a cul-de-sac is worth exploring.

As far as I know, the only writer who has seriously attempted the exploration is John Ruskin. He at least tried to examine phenomena in the light of his love of phenomena. But because

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his prose is weighty and involved, and because he is alleged to have confused beauty with truth and goodness, and because, like all lovers, he is articulate without being logical — and, above all, because he will allow no one to disagree with him but himself, he is little read today, though he has been emerging during the last few years from the shadow of prejudice that obscured him. And yet the five volumes of *Modern Painters* contain a great deal that is worth saying about beauty in Nature. For Ruskin did, very patiently, examine the laws that govern the visible world he undoubtedly loved. It was a limited world, romantically conditioned by the taste of the nineteenth century. Sunsets and torrents and towering dells alternating in it with crystals and flowers in the crumpled wall. But it was no the less a world he had experienced intensely, and which had caused him to a pitch of enthusiastic curiosity that few writers have ever equalled. Ruskin felt that, since experience of the universe is the artist's true material, some attempt to examine the universe must precede any inquiry into the nature of the arts.

That seems to me the only rational method of arriving at a solution of the two main problems — the problem of how it is that man's experience of Nature conditions his sense of what is and what is not beautiful — and the problem of why, within the limits of his experience, natural objects appear to possess greater or lesser degrees of beauty.

An acorn falls to earth and an inevitable chain of events is started. Law so complex that they cannot be explained, so numerous that they cannot be counted, and so rigid that they cannot be broken, come immediately into operation. The combined result of the irresistible forces will eventually be an oak tree, a particular oak tree different from all other oak trees. It will owe its difference not to blind chance but to an unbroken sequence of causes and effects. Indeed, a scientist

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who had the knowledge and patience to estimate the quality of the soil, the direction of the prevailing wind, the rainfall, the variations of temperature, the hours of sunshine (each in its turn the result of another inescapable series of causes): who could deduce from these data the acorn's rate and direction of growth: who could guess at the probability of damage by lightning, earthquake, or pests, or of interference by neighbouring oak trees protecting it from rain, depriving it of sun, or sheltering it from wind: such a man might roughly predict the appearance of the oak tree at the end of an interval of, say, fifty years, at the very moment when the acorn struck its first rootlet into the ground. And what is true of the acorn is equally true of every cloud, every blade of grass, every mosquito, and every mountain contour—not to mention every philosopher.

The result of obedience to law is uniformity. Isolate a single one of Nature's laws, cancel out the rest, and the result is a pattern. Conceive, for example, that the acorn has nothing to attend to beyond the law that compels it to struggle upwards, vertically, branching outwards at intervals at a given angle and at given intervals from the main stem. The result would be a world in which all oak trees were constructed on a geometrical pattern, a world of absolute symmetry and no surprises, the world of an engineer's drawing-board. But call into play one more law, the law of gravity, for example, let each branch feel a downward pull to counteract the upward struggle, and the uniformity, though still present, begins to be more interesting, the pattern more complex. At each point in the lateral branches the contest between growth and gravity produces a different result. According to their thickness and resilience, the branches begin to assume curves of the utmost subtlety. Call into play, one by one, each of the forces that our imaginary scientist has tried to estimate, and each will play its part in modifying the pattern of our original tree. The curve produced by growth-

versus-gravity will again be modified by the impact of sunshine from the south, drawing the branch towards it, or by a wind from the west momentarily interfering with the pull of the earth. A raindrop clinging to the lower lobe of each leaf will modify each leaf's natural symmetry. Moss forming on the damp side of the trunk will upset the trunk's uniformity of colour. Till at last our oak tree, modelled on the simple ideal of the engineer's drawing-board, has submitted, in every square inch of its surface, to such countless variations from that ideal that the original simple design can only be dimly divined behind the variations. And yet each variation is no more than an additional act of obedience to still another law. It is not a negation of the drawing-board pattern, it is an interweaving with it of other related patterns.

Now, surely if the mind has a basic hunger, it is the hunger to understand and to correlate. The most irritating thing in the world, as Herodotus once pointed out, is to be full of thoughts and sensations, and yet not to be able to marshal and sort them out. That desire to come to grips with the incessant stream of impulses that pours along the sensory nerves from the sense organs to the brain *must* be gratified or life becomes intolerable. If my eyes, and me nothing but reports of visual chaos, or apparent visual chaos, in the outer world, the part of my brain that receives visual messages will be in a permanent condition of distress. 'There was never anything ugly or misshapen,' said Sir Thomas Browne, 'but the Chaos wherein, notwithstanding, to speak strictly, there was no deformity because no form.' Submit that outer chaos to law, introduce that uniformity of behaviour which is the inevitable result of obedience to law, and at once the mental distress changes to pleasure. St Thomas Aquinas's sensitive man finds himself pleased with what he has seen, and surely he is justified in assuming that the source of his pleasure - the thing he has been in the habit of calling beautiful, because he loved it and

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desired it, has an intimate connexion with law, or at least with his recognition of the workings of law.

Such a recognition would account for a great deal. The human mind, finding itself surrounded by countless examples of law-abiding behaviour, begins to accept such behaviour as normal, then to expect it and be distressed at its absence – or apparent absence, for it never is absent – then to demand it, and finally to love it. It ties phenomena together into an intelligible whole, it imposes rhythm and pattern on the universe and enables the grain of sand to maintain the mosquito to the whale and regulates the behaviour of molecules and puny nebulae alike.

The first is a stimulating one for the scientific observer. No wonder that microscopes and telescopes, spectrometers and thermometers were busy during the nineteenth century examining matter and analysing and recording the behaviour of the universe. For the scientist nothing could be more exciting than to play the detective – examining the clues and to cover the laws that must be everywhere just so. And no wonder the religious enthusiast endeavoured to cover the detective, to rise into a sphere beyond the range of scientific instruments, found himself out of sympathy with the scientist because he had entered a sphere of inquiry in which measurement was impossible. Rushinian attempts to reconcile the scientific and the religious appear hopeless now, and in the opinion of the twentieth century, mainly unsatisfactory. And yet if our objective is to be an examination of beauty, the two approaches must be reconciled. Neither the classic in the end nor the romantic mood of the mystic will suffice. The first refuses to recognize beauty as a value because it can not be measured, the second refuses to recognize measurement as even desirable, and therefore cannot envisage beauty except as a cause of vague satisfaction.

But although it would be theoretically possible to explain

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the visible aspect of every natural phenomenon - its shape, size, colour, and texture - in terms of a mathematical formula derived from a set of underlying laws, in practice the task of doing so would not only be infinitely laborious but utterly useless. Once it has been pointed out (and Plato pointed it out neatly enough in the *Philebus*) that beauty is ultimately reducible to mathematics and that the appreciation of beauty is ultimately dependent on one's recognition of the mathematical behaviour of the universe, all that is needed is to cite a few examples of complex rhythmic behaviour and note the infinite variety of resultant relationships between shape, size, colour, and texture. Such relationships can only be grasped intuitively, and intuition is quite sufficient for their enjoyment. Even the scientist must approach his task intuitively, otherwise he will never be able to select the small portion of the universe which he wishes to measure, and, indeed, he will not be able to formulate a wish to measure one aspect rather than another. But the layman must rely on intuition alone, while the artist is only an artist because his intuitive understanding is so heightened as to merit the name of 'love'. And he has come to the word 'beauty' precisely because he wishes to stress the intuitive or intuitive aspect of his art, and to dispense with measurement.

Nature provides very few instances of form whose mathematical basis the eye can grasp in its entirety and at a glance. One of the few is the logarithmic spiral of the nautilus shell whose mathematical formula is dependent upon the rate of growth of the nautilus, which constructs each new section of its abode to fit its new dimensions. Another is the perfect sphere of the soap bubble which owes its shape to Nature's determination to enclose the maximum volume of air within the minimum area of containing surface. Certainly there is a mild satisfaction to be derived from the contemplation of perfect spheres and logarithmic spirals. Both are well within

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the range of the scientist's measuring instruments and the artist's intuition. But such simple geometry is mercifully true. One has only to examine a square foot of vegetation in the nearest patch of hedge-row to find oneself in a world of colour and form-relationships that go far beyond the power of mathematics to explain. Even the mathematician who reduced the soap bubble to a simple mathematical formula, in which the surface tension of soap-solution and the 'law of the minimum enclosing area' play their part, soon begins to find himself in deeper water as soon as two soap bubbles come together, and he has to examine the distortion to the spherical form that results when a common surface unites the two spheres. The formula is more elaborate, but is still well within his grasp, provided he ignores such complications as currents of air pressing sideways on the enclosing film. Huge soap bubbles give him a still more complicated formula, and five almost baffle the human mind. And yet Nature rarely provides so simple a spectacle as a bunch of five soap bubbles.

The housewife who plunges her arms into a mass of ten thousand bubbles and, instead of guarding them reverently from any force that might disturb their surface tension, recklessly ruffles her husband's shirt through the mass is setting up a series of shifting movements that are still governed by mathematics, but which would drive any mathematician who tried to find their formula into a premature grave. As for the foam that drifts across the back of every breaking wave—surely the most ardent mathematician would be overtaken by miasma at the very notion of referring its behaviour to mathematics. Yet only mathematics can explain it—it, and the tiger and the sunflower and the cumulus cloud and the tangle of grass in the hedge-row. That tangle is no more chaotic than the nautilus shell or the soap bubble, but it is more interesting because its pattern has been determined by the interaction of many laws. Every flower and every grass stem in it is disposed to a fraction

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of a millimetre in a pattern that the eye delights to grasp, but which the mind can never hope to analyse. Each stem, as it thrusts upwards, is directed by the proximity of other stems and its own will to secure its share of light and air; its curve is the result of a balance between its length, its resilience (which varies in a mathematical progression throughout its length), and the weight of the seed that grows on the end of it. And each of these ingredients varies both in itself and in its relationship to the others, from day to day, as the sap rises, as the seed ripens. And since botanical classification divides the order Gramineae into forty six tribes, and each tribe contains an average of five species, there are between two and three hundred kinds of grass, each with its different stem-length, resilience, and weight: each therefore producing a slightly different curve, each curve modified by its immediate environment.

If anyone doubts that an underlying orderliness is at work even in the most apparently chaotic patch of natural form, let him try the effect of interfering with such a patch. Let him, for example, tie up against a wall a stem of bramble that has been lying along the ground, or let him blast out a quarry from a hillside. Immediately his eye is afflicted with a sense of something amiss, of a pattern disturbed. The leaves that had arranged themselves so carefully to catch the sunlight are now disarranged and will require at least a week to reorganise themselves. The curvature of the hillside, the product of centuries, has lost its inevitability. At least a century will be required to repair these interferences with Nature's formulae.

Under such circumstances it is evident that science and mathematics can do no more than offer a set of rough, though valuable, pointers. They can open a door to the jungle, but, once through the door, only intuition can find the way. The scientist can explain the sphere, the hexagon, and the spiral; he can account for the soap bubble, the honeycomb, and the

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nautilus shell. He can point out that Nature's tendency to produce spherical and circular forms, owing to the 'law of minimum containing areas', also tends to result, owing to the 'law of tight packing' and Nature's disinclination to waste space, in hexagonal planes and solids with a hexagonal section. For the next regular unit of circles is a unit of seven – a central circle with six surrounding circles, each touching its neighbours and the central circle (Fig. 1). And when, as in the case

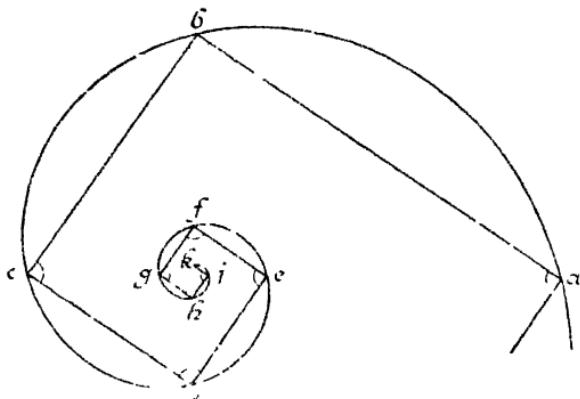
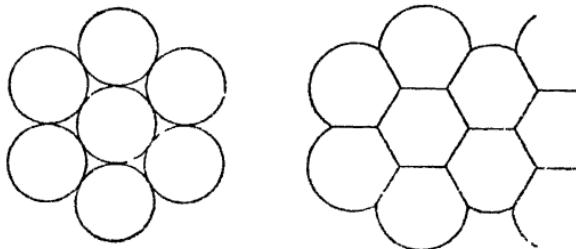


FIG. 1. Circles

FIG. 2. Hexagons

FIG. 3. Logarithmic Spiral

of the honeycomb, a number of these new units are being formed simultaneously, the pressure from each unit on its neighbour tends to flatten the sides into a hexagon, or a tightly-

packed colony of hexagons in which only the free outer surfaces are allowed to return the circular section they long for (Fig. 2) He can thus account for Nature's supply of angles of 120° , just as he can account for angles of 90° by the law of gravity which, working at right angles to the horizontal surface of the earth, compels for example, all growing things to achieve their equilibrium by progressing vertically. If, in a growing plant the force of gravity is modified by the addition of centrifugal force, the direction of growth is distorted.

As for the logarithmic spiral produced by most shells and found throughout organic nature as for example in the ram's horn, the mathematical formula dependent on the law of growth, is one of the few that can be seen at work in living objects. It arises from a geometrical progression (e.g. 1, 2, 4, 8, 16, 32, etc.) Draw a series of lines with tangents related in a geometrical progression and joining at a constant angle connect the angles with a curve and the result is a logarithmic spiral.

The scientist can point out too that it leaves, which share the general tendency to be circular, are thwarted in that desire by the interplay of other forces which he can measure but cannot fully understand. This is evident even in roughly circular leaves like the leaves of the nasturtium which are roughly circular. Like most leaves it is supported by flatish surfaces stretching between series of supporting ribs but some force causes the leaf to bow in low in proportion to their angle divergence from that of the central rib which continues the line of the stem on which the leaf is supported. The result is still roughly circular but can be supported at a point which is not its centre (See diagram on p. 47).

With a leaf another force comes into play - a force that for some reason contradicts the law of 'minimum enclosing area' and demands a larger contour in proportion to the area enclosed. This contradictory force produces a leaf of greater complexity than that of the nasturtium and the more the force asserts itself the greater will that complexity

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be. The serrations of the buttercup or the delphinium leaf are more complex than those of the lupin. The thistle finds it necessary to weave backwards and forwards three-dimensionally, while the parsley and curly greens carry the same process to fantastic lengths.

But all this is mere kindergarten stuff. The soap bubble, the honeycomb, and even the parsley are mathematically explicable. They offer elementary problems in natural geometry compared with the tiger, the oak tree, or the breaking wave. Yet the difference is only one of degree. From the point of view of natural science, they too are explicable in terms of a mathematical formula. True, the formula would be too long and wearisome for the human mind to grasp, but the point I wish to establish is that the size, shape, colour, and behaviour of a tiger conform just as rigidly to a set of inescapable laws as do those of the soap bubble, and that though the bubble can for practical purposes be reduced to statistics while the tiger cannot, they are both well within the grasp of human intuition. Indeed, intuition only begins to enjoy itself somewhere about the point where measurement is getting out of its depth. It can follow the regular sequence of rhythmic changes in the form and progress of the breaking wave, it can divine the *geometrically* diminishing intensity of colour between the foreground and the remote distance of a landscape owing to the density of the atmosphere. And in doing all this it can *know* that it is in contact with a mathematical world without needing to reduce its knowledge to statistics.

But intuition is concerned with something besides knowledge. It is concerned with enjoyment. And in proportion as it enjoys as well as knows, it adds *value* to *fact*. The moment the human being begins to examine preferences as well as things, he has moved into a realm in which the word 'beauty' has to be added to his vocabulary. But because he has examined things as well as preferences, the word 'beauty' will have for



Top row Basic shape of leaf *Nicotianum* *Lupin*
 Middle row Buttercup Thistle Curly Green
 Bottom row Buttercup Laurel

him a more stable foundation a more explicit meaning. Knowing that beauty and mathematics are related, he will be able to give himself a good deal of time by trying to define what the relationship is and to avoid the error of assuming the truth of the very thing he wishes to prove thereby arriving in a circle.

Even Ruskin allows himself to be drawn into this kind of error. In Section 1 of the second volume of *Modern Painters* (written in 1845), he made a serious attempt to analyse the nature of beauty. In 1882 he re-read what he had written and

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added a series of notes, of which the following is an extract from a note on his chapter on 'Typical Beauty': 'I ought to have given one or two typical examples of the practical application of the foregoing section and to have shown how, for instance, a wild rose is pretty because it has concentric petals – because each petal is bounded by varying curves – because the curves are dual and symmetrically opposed, and because the five petals are bent into the form of a cup,' etc. All of which is meaningless until it has been proved that concentricity, variation of curvature, symmetry, and so on are in themselves beautiful. The argument that a rose is pretty because it is like a cup merely prompts the question, 'Why is a cup pretty?' Doubtless Ruskin did not think it worth while to labour what seemed to him obvious, but he was certainly under an obligation to show *why* concentricity is preferable to eccentricity and symmetry to asymmetry.

In attempting to discover such 'whys', one can only work backwards, noting and collecting types of form acknowledged as beautiful, and then analysing their mathematical origin. But to do so is certainly possible. If, for example, the Mass Observation method were to disclose (as I suspect it would) a general agreement that a nasturtium leaf is pleasanter to contemplate than a plain green circle set at right angles to a stem that joins it in the exact centre, and that a lupin leaf is pleasanter than a nasturtium, it would be safe to deduce that – other things being equal – the interaction of two laws produces beauty more easily than the operation of one, that the interaction of three laws is more potent still, and so on, up to that point when the pattern becomes too complex to grasp. And then, remembering the rather irritating fussiness of the parsley and the curly green, one could add a rider to the effect that the laws must be fairly evenly balanced. When one law gets the bit between its teeth at the expense of the others, the result is eccentric and therefore disturbing.

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So far, then, one can say that beauty is the underlying mathematical behaviour of phenomena apprehended intuitively. And that it varies objectively with the number of interactive laws and the resultant mathematical complexity, and subjectively with the intuition of the beholder. In view of that clumsy but accurate statement, Ruskin's note on the wild rose will have to be worded rather differently. Is it true that a wild rose is pretty *because* it has concentric petals? If one accepts Ruskin's 'because' as the operative word, then an orchid or a sweet pea must be the reverse of pretty in so far as they are not concentric in plan. If a rose's cup-shaped section is the *cause* of beauty, then perhaps the lily's wine-glass-shaped section may rob it of beauty. But if one takes the circular plan and the cup-shaped section as a simple mathematical basis for a flower, one of many possible different but equally satisfactory bases, but needing a good deal more added complexity before it can be accepted as beautiful, then one is entitled to use the word 'because'. A rose, one can say, is beautiful because it contains (1) the perfect symmetry of a circle partially contradicted by (2) the imperfect symmetry of a pentagon, reinforced by (3) the bilateral symmetry of each of its five petals, which makes tolerable (4) the subtlety of the curve that bounds each petal, plus (5) the cup-shaped section: the whole being given unity by its (6) pink colour, which in its turn is given a slight variety of tone by (7) a deepening of the colour towards the centre, and a slight variety of texture by (8) the contrast between the smooth surface of the petals and the rough core of stamens in the centre. In other words, there are eight different visual elements for the eye to grasp, and no single one of them has obtained the upper hand. Indeed, so evenly balanced are they that the element of surprise or slight discomfort is missing. Hence Ruskin uses the word 'pretty' rather than 'beautiful'. Had he chosen an orchid, the word would have been inappropriate.

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This brings me to a second condition for beauty, one that will be of immense importance when we come to examine the meaning of the word 'taste'. A certain percentage of apparent disobedience must take place among the prevailing obedience, an admixture of unintelligibility among the intelligibility, of surprise among the familiar and the expected. The intuition in its perpetual assessment of aesthetic values must occasionally be baffled, or it will become bored and lose its sensitivity. Hence it is necessary that among the roses there should be an occasional orchid, whose pattern is a little more difficult to grasp. Of the elements of the familiar and baffling may even be mixed in a single object to provide the correct balance between the pretty which is not baffling enough and the bizarre which is too baffling. A simple, easily intelligible shape, like the larch leaf, can be made more interesting by the addition of a slightly baffling pattern of dots. In the more difficult shape of the buttercup leaf, such a pattern would be too disturbing. (See diagram on p. 47.)

Doubtless it would be possible to discover exactly what the necessary percentage of unfamiliarity is, for it must be fairly constant both in art and Nature. With regard to Nature, which presents a spectacle more or less familiar to everyone, there is little divergence of opinion, and such divergence as exists will probably be largely the result of local conditions. To the Dutchman, accustomed to level plains, the unfamiliar element will take the form of an occasional mountain, to the inhabitant of a mountainous region an occasional expanse of level country would provide the necessary slight shock, but in art the case is different, for the extent and intensity of each man's experience of works of art varies enormously, and each man, according to the extent of his experience, will have a different norm of familiarity and therefore a different set of requirements to provide him with the necessary shock. The percentage of unfamiliarity he needs will be the same in each case, but the

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stylistic idioms with which he is familiar will be different. To the man who accepts the idiom of the Venetian High Renaissance as the norm, the distortions of el Greco will be sufficient to satisfy his needs, and those of Picasso will go far beyond them. He will therefore be stimulated by el Greco and disgusted by Picasso. This phenomenon must, however, be more fully discussed in a later chapter. Here I am concerned to note only that one of the necessities for beauty is a slight admixture of unfamiliarity or unintelligibility in the mass of familiarity or intelligibility. In the examination of single and smallish objects like leaves or flowers, this admixture is important. As soon as the eye tackles larger composite units, containing more visual elements - a wide stretch of country, for example - the balance of familiar with unfamiliar is almost sure to adjust itself automatically, since familiarity is the result of repetition and Nature will almost always provide enough apparent exceptions to her own rule in any given landscape.

A good test for beauty of form can be found in the conformation of mountains which have been shaped by the coming together of a vast number of natural forces. Stratified rock is horizontally deposited, then tilted and broken into masses by volcanic eruptions, then possibly smoothed and moulded by glacial action, and finally carved into subtle subsidiary shapes by streams whose action varies with the pace and volume of the water and the varying resistances or brittlenesses of the rock over which they flow, and which still further modify the original curvature by depositing and rearranging the debris they carve out of the main mass. The resultant forms are capable of infinite variety, beautiful or less beautiful in proportion to the balance of forces that have been at work. The foothills, for example, in the Isère valley near Grenoble have a slightly unsatisfactory character because the stratification is too insistent, and the subsequent tilting and breaking seems not to have been modified by the action of

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streams. There is too great a preponderance of straight lines, too little admixture of curvature. The mountains of the Savoy alps, on the other hand, that rise behind these foothills, are thoroughly satisfactory. But take in both foothills and alps at a single glance, as one easily can from half-way up the opposite side of the valley, and the slight uncouthness of the foothills gives an added piquancy, the piquancy of a musical discord, to the whole.

Or, to take a more extreme case, mountains like Etna or Fujiyama which have been formed by a single, simple process—namely, the steady flow of lava radiating from a central crater till the mountain has built itself up into an almost perfect cone—such mountains are in themselves tedious to the eye, since their form is too obvious to provide sufficient exercise for the analytical faculty. But since they occur so rarely as to constitute exceptions, they acquire beauty by the very fact of their unfamiliarity. A countryside dotted with them would be wearisome in the extreme.

It is this perpetual balance of competing elements in Nature which determines the shape of our aesthetic appetites and our consequent assessment of what is or is not beautiful in Nature. To analyse or even to catalogue typical examples would be useless. It is sufficient for my purpose to catalogue their kinds.

Form, in its own right, I have already glanced at, merely to show how inexhaustible are its possibilities. But in addition to isolated form there is that subdivision of form known as texture which can vary from the gloss of calm water through the matt surface of a meadow to the roughness of a pebbled shore.

Proportion—a convenient shorthand word to express relationships of size—plays an unsuspectedly important part in visual experience, being an inevitable product of function. For example, the thickness of an animal's legs relative to the bulk of its body is a function of the strength of bone. The elephant, reduced to the size of a horse, would at once appear

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inappropriately proportioned, for the eye has already divined the mathematical proportion underlying the construction of both animals. The proportions that are correct in a butterfly would be grotesque in a bird. Even the angles which seem natural in the chain of the Alps would be unconvincing in the Lake District.

Finally, the phenomenon of colour, which, partly because of its importance but mainly because in certain fundamental respects it is different in kind from the phenomenon of form, must be dealt with at greater length.

Colour as a product of function is a far more difficult problem to grasp even intuitively, and I suspect that what is called 'beauty' of colour in Nature may depend on a kind of mathematics that has never been properly understood and which I have no intention of analysing.

In one sense the phenomenon of colour lends itself to more strictly scientific examination than the phenomena of shape or mass, since it can more easily be isolated in the laboratory and submitted to experimental treatment. Hence the number of books from Newton's *Opticks* onwards setting forth theories of colour. Since, however, most of these are based on spectrum analysis and the examination of transmitted light – light coloured by the transparent objects through which it passes – they are of little use to the man who is concerned with normal visual experience, which is mainly the effect of remitted light – light coloured by opaque objects which throw it back.

'Normal visual experience', as far as colour is concerned, is extremely strange and complicated. For although colour and form are both 'properties' of any given object – a leaf is heart-shaped and it is also green – yet somehow one feels that form is a more inalienable property than colour, since colour is more subject to interference than is form. The greenness of a leaf may become blueness in the far distance, or purpleness in shadow, or even redness at sunset.

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These interferences are of course easily explained when we remember that the apparent colour of an object is the result of a combination between its own 'local' colour and that of the light that falls on it, and that under circumstances where the colour of light can be controlled — in the theatre for example, where coloured gelatines can be interposed between the source of light and the illuminated object — an abnormal set of chromatic conditions can be artificially created with the greatest ease.

'Normal conditions', both for the scientist in the laboratory and the layman in the open air, consist of what is known as 'white light' falling on what are known as 'coloured' objects. For the scientist a vast field of research is open in both directions. Since Newton's *Opticks* was written, the behaviour of light and the nature of colour have been closely studied but the results of the scientific research of Helmholtz and Ostwald — even the amateurish speculations of Goethe — are of little use to the aesthetician who is concerned with colour as a factor of beauty, or to the layman, who cares very little what makes a tree green or a geranium red, but is immensely interested in the effect of colour on his emotional life.

The scientist can relate form to function more easily than he can relate colour to function. And even when he can prove, for example, that the hue of a flower is an important factor in its attractiveness to insects, he is working on too small a scale for his discoveries to be of real assistance to aesthetics. Moreover, his researches leave out of account the greater part of the layman's everyday experience of colour. The layman's colour experience of the world he lives in consists of various surfaces which possess the attribute of colour 'in their own right' or 'local' colour (which attribute depends on the molecular structure of the surface) modified by (a) the intensity of the light that illuminates them, and (b) the variation from whiteness of the light owing to interference between

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the source of light - the sun - which scientists agree to call 'white' and the illuminated object. These two 'conditions' of light, having nothing to do with molecular structure, are more easily and more quickly altered than 'local' colour. Nature constantly produces the same effects that in the theatre are produced by dimmers that reduce or increase the amount of light, or by coloured gelatines that alter its colour.

Every dawn and every dusk is an instance of a stepping up or dimming down of the amount of light. And the earth's atmosphere is a coloured gelatine that varies in its effect with every hour of the day, and can at sunrise and sunset produce the most violent disturbances, turning the sun crimson graduating the normally blue sky from emerald green to gold and the normally white clouds from gold through pale rose to lilac. Even at midday the chromatic influence of a moisture-laden atmosphere on distant objects (i.e. objects seen through a greater amount of atmosphere) is well enough known to need no description or explanation. It is these modifications that confuse the issue. They are not propertics of the object itself but of the conditions under which it is seen. And the artist - the specialist in 'seeing' - seems instinctively to have felt this separation between the intrinsic character of objects and their temporary appearance so strongly that not until the middle of the sixteenth century did he begin seriously to turn his attention to the possibilities of light, and not until the middle of the nineteenth did he study more than superficially the *apparent* as opposed to the *local* colour of objects. And even then the study of such phenomena was largely confined to Europe. Oriental art has consistently refused to take more than a perfunctory interest in the impact of light, or in any but 'inherent' colour.

Truth of colour was therefore a much later object of the artist's attention than truth of form. Before the sixteenth century the painter permitted himself to invent colour schemes

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that had far less relationship to his chromatic experience of Nature than his forms had to the observed shapes of the objects he represented.

It would therefore seem that our ideas of what colour relationships are beautiful and what are not are far less conditioned by direct experience of Nature than our ideas of beauty of form. But here I may be wrong. It may be that our attention to the phenomenon of *apparent* colour in Nature is so recent a growth that our aesthetic appetites for colour are at present in an extremely primitive stage. It is not many decades since the Impressionists in attempting to portray truth of colour, began to paint pictures that seemed to contemporary eyes chromatically ugly. It is only since the last decades of the nineteenth century that the typical Impressionist colour schemes have produced such an effect on our colour appetites that we have begun to demand, in the name of beauty, a set of colour harmonies that were originally presented to us in the name of truth.

This reference to painting may seem an irrelevant digression in a chapter dealing with aesthetic appetites based on visual experience of Nature and a sense of beauty dependent on the recognition of natural law. But our knowledge of the laws that produce colour is so fragmentary, and the fact that the laws themselves are of two kinds unrelated to each other, makes the world of colour extremely difficult to discuss. The enjoyment of colour cannot easily be thought of as the intuitive understanding of an underlying mathematical system. For that reason one is compelled to turn to the artist to find evidence of *his* experience of colour as embodied in his picture. Naturally his picture is more than a mere account of his experience: it is an ordered intensification of it. None the less, the nature of his experience of the world lived in can be roughly deduced from the picture he painted.

Now, although man's experience of colour is quite evidently

divided into two departments, a certain amount of overlapping of the two has always taken place. Even the primitives reluctantly acknowledged a certain amount of interference with local colour caused by the intervening air. Their distances, for example, are conventionally bluer than their foregrounds. But more violent interferences, such as occur at sunset or sunrise, were studiously avoided. Perhaps the first attempt seriously to tackle a major interference with normal colour is the sky, and to some extent the landscape, in Giovanni Bellini's 'Agony in the Garden' of about 1465. And a good many modern painters, though their eyes had been opened to the phenomenon of interference by the Impressionists, have deliberately stressed it at the expense of apparent colour.

The whole question belongs, of course, to a later stage in this inquiry, but this brief digression is necessary here if only to suggest that colour-experience is in some way, in its very nature, different from form-experience. Scientifically speaking, the difference is between passive and active experience. For the apprehension of form depends on an active exploration by the eye which actually *moves* as it follows contour or passes across the surface of an object, accumulating and correlating images. Where colour is a mere sensation — a submission of the retina to a perpetual bombardment of light rays of various wavelengths. This may seem, for practical purposes, a very slight difference, but in fact it is of the first importance. The education of the senses, like the education of every other faculty, is likely to be more complete and lasting if the pupil has taken an active part in his own education. The apprehension of form is the result of an effort: the apprehension of colour the result of nothing more than the sensibility of the retinal nerves. Form has to be read as one reads a book: colour can only be experienced as one experiences a hot bath. It is not an accident that makes it possible to speak of warm or cool colours. The same kind of vocabulary could

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not be applied to shape. There is difference between 'looking', which implies attentiveness, and 'seeing', which is no more than a sensation of the optic nerve. One looks at form, one sees colour. Attentiveness plays little or no part in our enjoyment of it.

For these reasons our feeling for beauty in colour is more sensuous and less intellectual than our feeling for beauty in form. Fewer disagreements arise and a set of absolute aesthetic values is more easily arrived at. The *kind* of colour sensation that satisfies the normal human eye may be based to some extent on the kind of colour sensations that normally greet the eye in Nature—the balance between the areas of blue sky, green fields, white and grey clouds and so on—but it also depends on the mechanism of the eye itself, the amount of stimulus received by the nerves of the retina, and the amount of fatigue to which they are subjected.

Physiologists appear to argue that colour sensations are communicated to the brain by the innumerable nerve endings of the retinal nerve which are arranged in groups, each group sensitive to a different set of wavelengths which it translates into colour sensations. Each group can be stimulated by the colour to which it is sensitive and can communicate its aesthetic pleasure by means of it. It can also be fatigued and can therefore communicate aesthetic discomfort by being subjected to unduly prolonged or unduly intense sensations.

It is not a question of brightness but of harmony and many attempts have been made to establish laws of chromatic harmony. Most of them have been both tedious and inadequate, as indeed they were bound to be for the simple laws, based on the contrast of complementary colours and the relationship of primary to secondary colours, can be stated in a few words, while the complexity that occurs in Nature at almost every turn is far beyond analysis, since so many factors are involved. Relative luminosities, to which I shall return in

a moment; relative tones – the contrast of light with dark; relative brilliancies – the contrast of bright and dull; relative areas – the contrast of small with large; juxtaposition – the distance between areas, all play their part. And, as with the mathematics of form, so with the physiology of colour, it is easy to lay down general principles but impossible to work them out in practical detail. Again, only the intuition can grasp such relationships. The curious may derive a little mild amusement from perusing the laborious list of contrasts and harmonics tabulated by Chevrel (*The Principles of Harmony and Contrast of Colours*), but only the pedant could find them useful.

Attracted by the knowledge that colour sensations, like sound sensations, are the result of the impact of measurable wavelengths, theorists have attempted to formulate laws of chromatic harmony based on mathematics. But to work out a set of laws of harmony at all comparable to the laws of musical harmony has always proved impracticable since the musician is only concerned with a continuous single sequence of relationships, whereas our visual experience exists in space, and the time sequence is replaced by an area, every portion of which is seen simultaneously. Under such conditions the only laws that can be formulated are those imposed by the inherent nature of colour itself.

The simplest of these laws was hinted at just now, when I referred to the relative luminosities of colour. One of the most remarkable features of what is called 'fully saturated colour' – colour that is at its maximum of purity, neither lightened by the addition of white nor darkened by the addition of black – is that each one has its own standard of luminosity. Looking at a spectrum, where all the colours are fully saturated, one is immediately conscious of a climax – a climax not of brilliance of hue but of brightness of light – somewhat about the centre, where the yellows and yellowish greens reside, and of a

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diminishing scale of brightness towards the blues on one side and the reds on the other. It is possible for the artist to interfere with this natural climax, to juxtapose a dark yellow with a pale blue, but he does so at his peril just as a composer introduces a cacophony of sound at his peril. Nature herself indulges frequently in such cacophonies and only manages to conceal the fact that she is giving pain to the eye by the process, which I shall refer to later, of giving pleasure to the mind.

I had often suspected that this might be so and a striking proof of it occurred some time ago when I was looking at a set of colour transparencies in a photographic exhibition thrown on to a screen in a dark room. These colour photographs were surprisingly true to Nature in their chromatic values and I found that I could tell round them either as actual views seen through the windows of a darkened room or as painted pictures hung against a black wall. In almost every case flaming sunsets, sunlit gardens crowded with delphiniums and poppies, children in pink jumpers playing with emerald-green balls on golden sands seemed enchanting when thought of as actual '*troupe lait*' scenes and disarmingly tasteless and discordant when thought of as painted pictures. Occasionally, especially in her quieter twilit moods — Nature produced a good colour scheme rather like a Whistler nocturne but her lapses into good taste were unbelievably rare. This process of adding or subtracting it will tell the associations that lie behind the spectacle of Nature is not easily achieved under normal conditions. Here, by sheer chance were provided the laboratory conditions under which it could be done. One could either participate in the moving pageantry of a sunset by 'watching' it, or one could see it objectively as in *essy* in colour-and-form arrangement. The difference between the two was unexpectedly disturbing.

Even apart from her disregard of colour harmony, there is a decided lack of colour balance in Nature. On the whole, she is

timid in her use of the warm end of the spectrum. The preponderance of green, blue, and grey (vegetation, sky, and cloud) over red, yellow, and orange, which are usually limited to minute areas such as flowers, berries, and the smaller animals, is remarkable, and artists instinctively redress the balance. A range of colour harmonies which would be exotic and unfamiliar in Nature are a commonplace in art.

All this is discouraging evidence on which to base a theory that our standards of visual beauty are based on appetites engendered by our visual experience. At the opening of this chapter, I stated with some conviction that we cannot criticize Nature, since, being part of Nature, we have no outside standards wherewith to judge it. And yet here is an important department of natural phenomena which *can* be criticized. There can be only one reason for this breakdown of what I once regarded as an axiom - namely, that in regard to colour a standard of beauty *does* exist independent of the world of phenomena, a standard for which the key lies in the mechanism of the eye itself.

Clerk-Maxwell (in a lecture to the Royal Society) hinted at this when he said, 'It seems almost a truism to say that colour is a sensation. . . . Some inquirers have supposed that they ought to study the properties of pigments: others that they ought to analyse the rays of light. They have sought for a knowledge of colour by examining something in external nature - something outside themselves. Now if the sensation we call colour has any laws, it must be something in our own nature that determines these laws.' And yet in another place he argues that the mathematics of wave frequencies can have nothing to do with these laws because no mechanism for counting could possibly distinguish between such astronomical frequencies as 447 billion per second, which are seen as red, or the 570 billion that produce the sensation of green. But surely if the verb 'to count' means anything, it means to translate

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a number into a symbol, and a chromatic sensation is as valid a symbol as an arabic figure. If the retinal nerves could not 'count' frequencies, they would be unable to distinguish the frequencies that produce what we call 'green' from those we call 'red'.

Every consideration forces us to the conclusion that the world of colour, as we know it, is not only produced on a differently constructed chain of cause and effect from the world of form, but that our own apprehension of it is different in kind. The difference is rather like that between an alphabet and a dictionary. From a dictionary we can extract and arrange words and establish relationships between them, since each word carries with it its own little burden of meaning. And by an intelligent use of the dictionary we ourselves, if we have a 'meaning' to express, can produce literature. In fact, only through our knowledge of the dictionary can we develop a sense of what is, or is not, appropriate in literature.

But the colours we see around us, like the letters of the alphabet, are *not* charged with meaning. Like letters, they can be arranged in groups, and only when that has been done can they acquire a meaning.

Now Nature provides no counterpart to the colour-alphabet - unless it be the rainbow, which presents itself too rarely to be used as a standard work of reference. This alphabet is not part of everyday experience. An alphabet consists of a set of abstract concepts, and its true counterpart in the visual world is the paint-box. Given a paint-box, a hypothetical artist shut up from birth in a hypothetical prison could still evolve a world of colour, but he could not evolve a world of form. The concepts 'green' or 'red' would present no more difficulty to him than the concepts 'a' and 'b' to an illiterate child: but the concepts 'leaf' or 'geranium' could never be satisfactorily explained. Therefore our hypothetical artist, searching for 'beauty' of colour, would only have to experi-

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ment with his paint-box until he achieved a pleasurable sensation. He could never discover beauty of form by such a means.

Another analogy could be made with the world of sound. Nature provides a constant succession of sounds which, apart from rare exceptions - like the cuckoo's call - are not strictly musical, though they are received by the same mechanism as musical sounds in the form of wavelengths acting on the ear. Again, we are concerned with a set of sensations, a bombardment of wavelengths and again we derive no standard of musical beauty from Nature. When we hear the wind in the trees or the snapping of a twig, we are subjected to a chaotic mixture of wavelengths like a chaotic mixture of letters of the alphabet. It is only when we have constructed a musical instrument - the audible equivalent of the paint-box - that we can begin to experiment with musical relationships and evolve from our experiment, a set of appetites that will give us our standard of beauty.

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A MEADOW of lush grass generously interspersed with buttercups and ox-eye daisies usually strikes one as beautiful. But what if on entering the meadow one were to discover that the buttercups were empty Gold Flake packets and the daisies torn up scraps of paper? One would protest to oneself in vain that litter and wild flowers can be equally pleasing to the eye, but despite one's attempts to preserve one's aesthetic judgments intact, one's attitude to the meadow would alter and the alteration could only be expressed in terms of disappointment. The eye cannot arbitrate alone. Each of our senses contributes its share to the total of sensation and perception, and what results is an amalgam far more complex than is commonly realized. The blackbird's song has an admirable purity, but its rhythm and its intervals are too elementary to be musically interesting. Yet, associated as it is with spring afternoons, sunshine, and shady lawns, it becomes part of a sum of experiences, and it is a sufficiently important item in that sum to trap one into regarding it as exceptionally beautiful. The nightingale, musically rather less interesting than the blackbird, has gathered round itself so massive an accumulation of romantic associations with summer nights and moonlight that it is impossible to isolate it from its emotional context.

There is no such thing as a 'pure' experience. There may be a central experience, but the central experience is always either reinforced or contradicted by subsidiary experiences associated with it. And in daily life, in which all our senses are equally alert to sensations received from the outside world, the resultant total has a richness and complexity beyond the reach of

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analysis. In our experience of art, which by its very nature seeks to isolate sensation by addressing itself to one or two of the senses only, the amalgam is less complex, but it is still far from 'pure'. A symphony can never address itself to the ear alone. The architecture of the concert hall, the intensity and colour of the light, the condition and temperature of the atmosphere, the comfort or otherwise of the chair one sits on, all make their small additions to or subtractions from the central experience. The organization of pure sound, intended by the composer for the ear alone, is no more than the most important item in an elaborate event; even if the symphony were performed in the dark, the senses of touch and smell would still operate, not to mention the ear itself which is continually assailed by sounds – coughs and shufflings of feet and rustlings of programmes – that were no part of the composer's intention and which have to be 'turned out' by the mental process of *listening*, although they cannot be eliminated from the mechanical process of *hearing*.

But the artist's attempt to isolate and purify our sensations is not yet in question. What must concern us now is our experience of life, in which no such attempt is being made – in which the word 'attempt' is irrelevant since it implies a purpose, and no one has yet divined the purpose of life. However inconvenient it may be to have to admit that the sense of sight is only one factor in our final estimate of what is visually beautiful, there is nothing to be gained by denying it. As long as visual beauty is regarded as a sensation produced by the mathematical behaviour of the visible world, the examination of beauty must confine itself to a rather dreary kind of mathematical analysis in which one thing is only more beautiful than another because it obeys a more complex or a more interesting mathematical formula than another.

Such an examination may explain one's conviction that a lupin leaf is more beautiful than a nasturtium or that the

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Matterhorn is more beautiful than Mount Etna, but it does not entirely answer the question raised in an earlier chapter, 'Why is a horse more beautiful than a pig?' Certainly the horse's shape is more complex and therefore more interesting than the pig's, but not sufficiently so to account for the difference in our sense of their relative attractiveness.

The fundamental fact about organic nature is that it is functional. That is a short way of saying that given certain desires and fears and given a fixed environment, the plant or animal will inevitably so adapt and alter itself that it can most effectively gratify its desires and minimize its fears. Having eventually evolved the necessary adaptations and alterations, it ceases to change and becomes a 'species'. After which only a change in the environment can provoke an alteration in the species. Each species is the final solution of a specific problem. And in particular the outward form of the species comes to be associated in our minds with its own problem. The length of the ant-eater's nose, the speed and length of its tongue, are a result of its appetite for ants; the length and strength of the gazelle's legs are the result of its fear of carnivores. Strength becomes a symbol of greed, legs of speed.

There is no reason to suppose that any other force than the purely functional has been at work in the process of evolution. If Nature produces 'beauty', it is certainly not because beauty is *intrinsically* desirable, but because it has in some way proved useful to the species. What we call the beauty of the peacock or the passion flower must be a quality without which the peacock and the passion flower could not effectively fulfil their functions. And even if the beauty of the peacock is a product of a desire for beauty on the part of the peahen, it is certainly not a product of *man's* appetite for beauty. There is no reason to suppose that the peahen finds the peacock more desirable than the sow finds the boar. Nor is there any reason to suppose that the peahen finds the peacock's raucous voice less attractive.

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than the gorgeous pattern of its tail or the brilliant sheen of its neck.

But if man's division of the world he lives in into more and less beautiful has nothing to do with the mechanism of evolution, it may easily have something to do with the sense of what functions are admirable or desirable. If he thinks the horse more beautiful than the pig (a verdict with which no pig could be expected to agree), the reason must be found in his feeling that the horse's desires and fears are somehow more sympathetic to him than the pig's: and that therefore the outward form and behaviour which are the visible symbols of those desires and fears are more acceptable. In other words, consciously or unconsciously, he has arranged functions in an order of merit of his own, based on their similarity to his own fears, desires, and disgusts.

High on his list of desires is a desire for strength and speed, and in the horse's shape, no less than in its movements (which again have the rhythmic, mathematical basis without which there can be no beauty), he recognizes a machine capable of more strength and power than he can develop himself. When he wishes to suggest even greater speed, he invents Pegasus, the winged horse. And when he wishes to enoble himself and remove himself from contact with the gross earth, he endows himself with wings and invents the angel. High on his list of disgusts is a disgust of mud and dirt and of closeness to the earth, which the pig evidently does not share. These associations alone (and they are by no means the only ones) are sufficient, in combination with the purely visual perceptions of shape and colour, to give the horse an advantage over the pig, provided that the sum of perceptions and not merely the visual aspect of the two animals is taken into account. To the artist, and especially to the sculptor, for whom the visual experience is predominant, association necessarily plays a smaller, though never a negligible, part in the sum. I can

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imagine a sculptor refusing to admit that the pig as an arrangement of shape and mass is less pleasing than the horse. When we compare the horse with a table and the pig with a chest of drawers, the similarity of proportion and general design remains, but the similarity of function disappears; association ceases to play the same role: and with it the sense that the one is more admirable, and *therefore* more beautiful, than the other vanishes.

Once it has been admitted that though all Nature is equally functional, not all functions are equally admirable, we are confronted with a formidable rival, or, at least, a massive adjunct, to the mathematical theory of beauty. The beauty of the film star becomes a product of her desirability as well as of her symmetry, and her desirability can only be assessed by all the senses operating together to arrive at a combined verdict. The remarkable feature in this process is the power of the mind to arrive at a verdict without being conscious that the evidence on which it is based comes from so many different sources. It is remarkable enough that the mind can combine the separate visual images from our two eyes into a single stereoscopic image without being conscious that it is doing so. But to combine this visual image with perceptions independently provided by the other senses into a single emotional attitude is surely an extraordinary and an extremely convenient device. No conscious effort is involved. What does require a conscious effort is to disentangle all the heterogeneous ingredients that fuse together in a single emotional attitude.

In the case of everyday life the attempt is not worth making. Even if it could be done, it would serve no useful purpose. It is unprofitable to point out that the little pine woods near Martigues in France are more lovely to the eye than those near Haslemere in Surrey, but that their delicious scent on a hot afternoon is one among the many factors that make them seem so. It is sufficient merely to note that beauty in Nature

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resides not only in the eye of the beholder but in his nose, his ears, and his finger-tips. But the case of the arts is different. A work of art is a deliberate attempt on the part of the artist to produce the same emotional attitude by addressing himself to a limited set of sense perceptions. And the more limited the artist's appeal, the 'purer' one feels is his art. Instinctively we give to painting and sculpture, addressed only to the eye, and music, addressed only to the ear, a more honourable place in their hierarchy of the arts than to drama and opera which address themselves to both.

When therefore we find that violently divergent opinions exist as to the relative beauty of works of art that are ostensibly addressed to the eye alone, it is surely worth while to attempt to disentangle and classify the various factors that have led to these opinions.

Painting and sculpture, like music, certainly have their set of 'pure' or mathematical beauties, but unlike music they have a representational element which binds them to the *specific* experiences of life itself. No painting of a crucifixion, no painting of an apple, can be thought of as no more than a piece of formal planning. Once the figure of Christ or the apple has been recognized, the door stands open and a flood of association pours in. These associations may combine with and enhance the picture's 'beauty' or they may detract from it. But they cannot fail to affect it. And the less sensitive the spectator to formal beauty, the more association will weigh with him in his final assessment.

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EXPERIENCE alone can fertilize the womb in which a work of art is conceived. What is called the artist's imagination – the part of his creative mechanism responsible for envisaging the work of art, as opposed to creating it – is merely a machine in which his experience of life is sorted out and dealt with. Some of his experiences he rejects as being useless to him, others he cherishes as being particularly precious. When at last, he arrogates to himself the powers of a god and turns his conceptions into works of art, his creations may be hardly recognizable as records of experience, just as a string of sorted pearls may be only dimly reminiscent of an oyster-bed or a bottle of brandy of a vineyard. It is astonishing to discover how impressively the great imaginative artists of the world have managed to use the commonplaces of human experience. What they have achieved has been done, not by the invention of new forms, but by the distillation, the intensification of familiar ones. The memorable gestures of Michelangelo's athletes, the glowing distincs of Claude's landscapes, the gradations of light on which Rembrandt dwells, are all part of every man's visual experience. Yet by sorting out and isolating these commonplaces and by rejecting everything irrelevant to them, each of these men gives the impression of having created a new world.

Blake's stock of images – the visual vocabulary at his disposal – was absurdly small, indeed, it consists largely of clichés and borrowings; but with it he worked miracles. The artist may appear to have created something so full of his own daemon that it achieves a self-contained existence of its own

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and seems to revel in inner life that is almost independent of the outer world. None the less just is the oyster-bed is the true parent of the necklace so experience of life is the true parent of the work of art. The inner life is a by-product of the outer world. And that applies not merely in the narrow sense that is obviously true of works of representational art, it is equally true of buildings and chairs or of symphonies and perfumes which represent nothing in particular. Ideas of rigidity and flexibility of straightness and curviture, of simplicity and complexity of hardness and softness, without which no chair could be envisaged such ideas can only be engendered in the chair-designer's mind by their counterparts in Nature.

It is true then to say that the work of art is a child whose mother is the artist and whose father is the artist's environment. In that sense we the consumers and enjoyers of art are uncles and aunts to the work of art. We have taken no part in their creation yet they belong to our family. Our parents are their grandparents. The artists who made them are our sisters and brothers.

This puts us in a special relationship to all works of art. Our attitude to a tree is bound to be quite different from our attitude to a picture by Titian. The tree was fashioned by the same forces that fashioned us. The Titian was fashioned by someone rather like ours lives in the same *kind* of raw material that is available to us too. But Titian is not identical with ourselves and his raw material is not identical with ours. The set of personal preference that guided his sorting process is not the same as ours. Given the same oyster-bed, our necklace of pearl would have been different from Titian's. We therefore have the right to criticize the Titian, whereas we have no right to criticize the tree. We may admire the Titian. We may be forced to acknowledge that his sorting process shows far more sensitiveness and discernment than we are

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capable of ourselves. But, though we may be his inferiors in imaginative power, we are his equals in status.

It follows therefore that what we call the beauty of a Titian is different in kind from the beauty of a tree. The latter we have no choice but to accept: it is from the tree itself that we derive our notion of beauty in trees. The former we need not accept at all unless it satisfies a hunger we have already developed for beauty in works of art. And the nature of that hunger is bound to depend on our preconceived ideas about works of art. And since Titian, as already mentioned, was rather like ourselves - a European who had absorbed very much the same kind of culture and civilization as ourselves - the probability is that we shall find his picture beautiful. Our preconceptions will be, at least collitcally, related to his own.

Moreover, it must be remembered that Titian's experience of life, the storehouse from which he sorts out the ingredients for his picture, includes his experience of other works of art. He is just as intimately familiar with the pictures of his master, Giovanni Bellini, and of his contemporary Giorgione as he is with trees. In stringing his necklace of pearls, he has before him examples of other men's attempts at pearl-stringing. And though none of their necklaces will seem to him to be strung quite as he would have strung them himself, yet they are bound to influence him.

We, too, the consumers of art, have had our appetites for beauty conditioned and modified by our knowledge of works of art. Our experience of life, too, is not confined to natural phenomena. Even more than Titian himself are we conscious of the artist's creations, for our experience includes works Titian never dreamed of, works done since Titian died. And each of those works has contributed to the shaping of our aesthetic appetites, and thereby altered our sense of beauty.

Now just as our acceptance of an oyster-bed depends on our recognition that it forms part of the harmonious ensemble of

life, so our acceptance of the string of pearls depends on our recognition of its relationship to the oyster-bed. If the beholder's mind fails to grasp that relationship — if the string of pearls is so strange and unfamiliar that no conceivable process of sorting, isolating, testing and arranging will account for it — it once the work of art becomes unintelligible and therefore ugly. Nothing in our experience has prepared us for that particular manifestation of the human imagination. No appetite for that particular form of visual delight exists in us. Therefore we reject it. And we rationalize our rejection by the simple process of calling it ugly. This happens usually in the case of the old — even the oldest — masters. If we did, only two explanations could be possible. Either the master in question had established so long a time ago particularly worthless pearls and our boy-sat-in-the-cisso has seen too few pearls to see very quickly enough that his necklace is unacceptable to us. Or we in the force of public opinion of West Africa confronted by his first Monet or a vente-enth-century Dutchman confronted with his first Sun — in despite rejecting them utterly — were unaccustomed to his experience. His oysters had never produced anything as queer as that; therefore they cannot possibly be pearls. But on the other hand, the old masters carry their birth certificates with them. A little thought — a little comparison — in them and others like them, will convince most people that they all had a possible method of sorting out from the big-bag of experience just what they needed. What they needed was perhaps different from what we need, but we find it necessary enough to make allowances for the change the time brings about.

But with our contemporaries the case is different. Their experience is not identical with our own. They, like ourselves, know all about aeroplanes and telephones and mass-production and Communism. Like us they have absorbed the second-hand experience of life passed on to them and to

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us by artists of the past. But they have their own experiences to sort out and arrange and like each of their predecessors they have their own individual ways of doing it. New combinations occur to them which had never occurred to any previous artist. So that when we are confronted with their works of art we are looking at something unfamiliar something that is not yet a part of our experience. Our instinctive reaction is to reject it in proportion to its unfamiliarity. And if the artist in question has chosen to select and isolate a type of experience that has never been dealt with before, it is almost impossible not to reject it utterly. Here, giving us a diet for which we are unprepared. We do not stop to ask whether we are believing rationally, for appetite is never rational. We mentally transfer our incipitry to understand this new manifestation of the human spirit to the artist who created it. We put the blame on him and we transfer our failure to understand into one word — ugly. What we mean is unintelligible to me as in account of another man's experience. The word ugly can mean nothing else is applied to a work of art. Applied to a tree it would mean something different. It would mean unintelligible to me as an instance of the hys-ibidig behaviour of natural phenomena.

But that word 'ugly' usually uttered with a tinge of exasperation that an artist should have had the audacity to present us with something so unpaintable somehow looks assurance. It has none of the air of finality when it is applied to art that it has when we use it about Nature. There is no hostility in our tone of voice when we apply it to a pig or to an octopus. We are angry neither with the pig nor with the pig's Master. But our exasperation with the artist who fails to do his job as we would like him to, or is artists of the past have taught us to expect him to, is a weakness, and we know it. We suspect — quite rightly — that the next generation will not be hostile for they will understand what we cannot

understand. They will understand the artist's intention, for it will have been part of their familiar environment. They may not think it a very important or significant intention, or they may find it quite fascinating. In the first case they will call his work of art 'mediocre', in the second 'beautiful'. But only rarely will they call it ugly. And when they do, they will use the word dispassionately.

If then, the word 'beauty' can shift its whole direction in the course of a couple of decades, it is surely worth examining the nature of these man-made phenomena, these works of art, which, without undergoing the slightest change in themselves, are capable of arousing hostility in one generation and admiration in the next. Our main inquiry must be into the strange fluctuations of what is known as 'taste', the power to distinguish between degrees of beauty and between kinds of beauty in art. But before doing so, it will be necessary to find out what art itself is made of.

I am not concerned here with the artist's motive in creating his work of art. I am content to take him for granted, I am willing to ignore him altogether except as a womb in which art is conceived, just as I am willing to ignore God altogether except as an originator of matter and an inventor of the laws that govern the behaviour of matter. That 'why?' and the 'whither?' of God and man, of Nature and art, are questions for the philosopher. My concern is with the 'what?'

At this point, as soon as we begin to examine art more closely, my pearl-necklace analogy will no longer serve. It wormed its way into the last few paragraphs against my will. Like all analogies, it breaks down on close inspection. Art is far more than a selection of scraps that seem particularly attractive to the artist, chosen from a bewilderingly large rag-bag and arranged in a way that seems to him particularly desirable. Such an image is useful enough for the purpose of distinguishing between Nature, the big central warehouse, and

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art, the little specialized retail shop. But once that broad distinction has been made, art must submit herself to a closer analysis.

Closer analysis reveals her to be something far more complicated in structure than Nature. Unlike Nature, she turns out to be full of human intentions, points of view, comments, boredoms, preferences, all of which must be understood if art is to be understood. Nature, for all her inexhaustible variety, is, as it were, all on one level, a limitless, two-dimensional area of which man has hitherto explored only one fragment. She can be compared to the foundation on which the house of art is built, or, better, to the axioms and postulates upon which Euclid constructs his propositions. Euclid's 'A straight line is the shortest distance between two points' could be paralleled by saying, 'An oak tree is the shortest distance between two generations of acorns'. That, presumably, is Nature's view of an oak tree - a purely functional view. The artist's view is different. To him an oak tree is far more than a machine for producing acorns. It can be a symbol of strength, an arrangement of masses, a colour scheme in dark brown and yellowish green, a stimulus to his sense of curvature or his sense of proportion. It can give rise to a host of attitudes of mind, each or all of which can contribute to a work of art. If Nature is two-dimensional, art is three-dimensional, full of different levels, an onion rather than a plain, a thing that can be held in the hand, but which will never reveal its secrets unless one realizes that its outer visible skin is almost nothing. The skin must be peeled off, and under the skin, layer after layer must be peeled off in turn until, right in the centre of it, a hard core is discovered, a core that has something to do with the mysteries of the human soul.

What interests me is the structure of this onion. Hundreds of thoughtful, sensitive men have made it their business to examine some particular layer of it. The weakness of almost all their

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thought and sensitivity lies in a tendency to seize on one particular layer and to assert that here and here only is the key to the mystery. But I can think of no writer whose central theme has been the close interlocking, the delicious fitting together of layer to layer, so that the whole becomes an integrated solid, a complex whole of which neither the skin nor the core can reveal the secret, but only the continuous texture that leads from one to the other and binds them together.

For convenience take the case of paintings. Not that for my purpose there is any essential difference between paintings and chairs, dramas, symphonies, or epic poems. But a painting does offer a laboratory specimen of unusual completeness, for in it, as we shall see, the onion has an extra layer.

Here, then, is a picture, a flat surface of a certain size and of a well-defined shape, on to which the artist has spread certain pigments in such a way that they will convey certain intentions that once existed in his mind's eye and in his mind's eye alone, to our minds' eyes by way of our physical eye. The reader may possibly disagree with this definition of a picture, but it must stand for the moment. It is no more than a convenient nail to hang our onion from while we examine its structure.

The majority of paintings are representational. The artist, that is to say, has so spread his pigments on to his surface that they remind us of objects known to us or intelligible to us because of our own experience of life. The picture has a subject. It 'represents' a landscape, a vase of flowers, a group of people, and in so far as it does so our first reaction to it is one of recognition. We refer the landscape, the flowers, or the people in the picture back to our own memories of landscapes, flowers, or people. We compare these recognizable forms with our own memories of such forms, and we are, on the whole, pleased if the pictured forms confirm our memories and displeased if they do not. This is the onion's outer skin. The artist

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has not yet begun to speak with his own voice. His function on this outermost level of painting differs in no respect from that of the camera. He is merely describing appearances, translating, as the camera does, the volumes of Nature into two-dimensional terms. I do not know what percentage of beholders never succeed in peeling off this outer skin, but I suspect that it is rather large. 'It is in execrable taste, having no resemblance to any appearance in Nature' (*Gentleman's Magazine* on Constable's 'Hadleigh Castle', 1829. See Plate 1) is the kind of criticism which can only be made by persons who refuse to penetrate the outer skin. It is quite a different attitude from that of the critic who recognizes the artist's representational or descriptive skill but considers it misplaced or misused. 'It is badly drawn, badly coloured, and, what is much worse, indecent. Why are the modest and lovely young females who daily grace the rooms of Somerset House with their presence, to have their feelings outraged and blushes called into their cheeks by a work like this?' (*Literary Gazette* on James Ward's 'Venus Rising from her Couch', 1830. See Plate 2). Here the critic dislikes the skin but is not content to stop there. he peels it off and finds the next layer unpalatable.

It is on this next layer that the artist begins to speak for himself. As a recorder of appearances, he can only be admired for his skill and accuracy, or blamed for his lack of them. On the inner levels he begins to assert his attitude to life. Praise and blame for what he has done take on a different note - the note in which one man speaks of another's intentions and judges him by a set of values of his own. The critic of the *Literary Gazette* complains that James Ward's Venus is 'badly drawn and badly coloured', by which I assume him to mean that James Ward has to some extent failed to paint his Venus with an outline or in colours that accurately represent a real live woman. But he regards the artist's failure to represent Venus convincingly in paint as much less important than his success

in representing her in such a way that she will bring a blush to the cheeks of lovely young females. This is not the place to inquire closely into the attitude of the 1830s towards the nude in painting, or to ask why the writer should have chosen to be indignant on behalf of the 'lovely' as well as the 'modest'. Such an inquiry comes under the heading of 'taste', and must be reserved for a later chapter. The point now at issue is that the critic himself distinguishes between bad drawing, which is a question of skill, and 'indecency', which is a question of an attitude of mind. In the layer below the outer skin, therefore, the artist, expresses his attitude to his subject-matter. He comments on it, and in doing so he does something that the camera cannot do. He is painting, say, a plateful of apples: as he looks at the apples a set of preferences begins to form itself in his mind's eye. The apples are green and shiny and round, but he cannot be equally interested in all three aspects of them. One or other of those aspects begins to dominate his attitude to the apples. Fascinated by their greenness, he begins to forget about their texture and their volume. From all other possible qualities that belong to these particular apples, he isolates the quality of greenness. He modifies the colour of his background so that their greenness shall be intensified by the juxtaposition. He eliminates the highlight that would express their shininess because it would detract from their colour, he suppresses the shadow they cast and the modulations of tone at their edges so as not to insist too much on their solidity. He has expressed his attitude of mind towards those particular apples. He has made his personal comment.

But it is a comment too closely tied up with his subject-matter to allow him much freedom of personal expression. That layer can be peeled off easily enough. Below it is something more important and more personal, namely the artist's attitude to the visible world in general. There is, perhaps, little essential difference between this layer and the last, but in

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it the artist begins to speak of his own preferences with more authority and to break away from the domination of his subject-matter. It is on this level that he deals most ruthlessly with his experience. He pursues passionately those aspects of the visible world which excite him, and in the eagerness of his pursuit he tends to link up with others of his kind and to form groups or schools of artists with a common generic set of excitements. The physical eye looking out at the world admits everything and selects nothing, but the messages it sends along the sensory nerves are submitted in the brain to a system of sifting and sorting that colour, the artist's 'style'. The Persian rejects practically all visual messages that cannot be converted into pattern, the Florentine sorts out those which explain structure, the Impressionist ignores whatever is not related to light and atmosphere. All of them take on the unmistakable tone that distinguishes the lover from the scientist. 'This is what I have seen' gives place to 'This is what I have loved'. Blindness, the lover's proverbial pigravative, contributes just as much as vision to the final result. The Persian *must* be blind to shadow and perspective, the Florentine to the atmospheric envelope that enfolds the world, the Impressionist to those delicate modulations of line which captivated the artists of the early Renaissance. Only by this combination of love and blindness can the artist speak with full effect. To the scientist a rose is a rose, to the artist it may be an intricate pattern like a snowflake, or a formless blur of pink like a bursting rocket, or an assemblage of minute curved surfaces that catch and reflect and absorb the light like the cut surfaces of a diamond. It is essential that each of these interpretations — these lover-like attitudes of mind — should be expressions of the truth. It is equally essential that they should not be the whole truth. But what is characteristic of them all is that they reveal the artist's love, not of roses but of the visible world in general. A pair of boots or a mountain would serve his purpose.

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equally well. And with that one may as well dismiss what is, I am convinced, the thickest, the most richly flavoured layer of the onion.

Beneath it lies a layer that is less definable, in which the gradual process, which the reader will doubtless have noted, of breaking away from subject-matter is now complete. I hesitate to call it the level of pure aesthetics, for the word has a pedantic ring. But no other word exists for what the artist is getting at now. He is no longer concerned with apples or roses or human beings, but only with shapes and colours, with proportions and contrasts and juxtapositions. On the face of it these preoccupations may seem a little inhuman, and yet it is here that the lover ceases to speak and begins to sing. The praises of his beloved are no longer mere statements governed by his vision or his blindness. They become rhythmic, like psalms, and as little connected with representation as music. We are getting near to the core of the onion. On this level the arts meet. The painter is doing what the builder of a cathedral or the designer of a ballet or the composer of a nocturne is doing. All these men are putting together the kinds of shapes and colours, or of movements, or sounds, that please them. They are still closely linked up with their experience of life, still sorting out bits out of the general storehouse, but not in the same spirit as on the outer levels. A love of green apples is now a love of greenness, a love of oak trees is now a love of roughness and sturdiness. If the picture is filled with shapes and colours that are in themselves rough and sturdy, then the artist is neither describing an oak tree nor expressing his attitude to an oak tree. He is weaving a spell about oak-treeness.

There is something rather remote about spells. They insult the intellect because they ignore it. Their potency depends on their power to short-circuit straight from the point of reception - the eye, the ear, the finger-tips, the nose - to the seat

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of the emotions. Music can do this infallibly; no lover of music could tolerate a sound-pattern that failed to do it. Visual art must also do it, though the artist's obligation to bewitch as well as to describe and comment is less obvious. Because the artist *can* both describe and comment, his function as spellbinder is apt to be forgotten, buried under the outer layers of the onion. And yet, forgotten or not, it is always there. The curves of the drapery in a fresco by Giotto are curves as well as draperies, the line that encloses a foot or a hand in a picture by Botticelli is a thread that entangles the eye, as well as an account of the shape of a hand or foot. It means as much (or as little) as the curve that encloses the dome of St Paul's or the wing of a Spittne. These last are curves in their own right. Wien has an advantage over Botticelli, for no one confuses his curve with hands and feet. The architect's spell is not caught up and entangled, as the painter's is, with the fringes of the material world.

Among the painters of today there are a few who resent this entanglement that they desperately try to become architects in their painting. By refusing to describe or comment, they bravely proclaim their abstract intentions in shapes and colours that 'mean' nothing; that is, in fact, nothing but two-dimensional architecture or visual music. There is logic on their side, but little else. 'I am an artist,' runs their argument. 'My business is to arrange the shapes and colours that please me in a way that pleases me. Why therefore should I confuse myself with irrelevances — with draperies and trees and all the paraphernalia of the visible world? And, above all, why should I distract the eye of the man who looks at my colours and shapes with unnecessary references to trees and draperies?'

He is right, this uncomfortable puritan. He is infuriatingly right, like all logicians. The very heart of the problem is here, the organ that pumps life-blood through the body of the

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picture. But in his hatred of irrelevances he has forgotten one thing, namely that a heart by itself is useless. A heart without a body is no more than a machine. The more efficiently it works, the more pitiful it seems that there is no work for it to do.

And now we are at the threshold of the ultimate mystery. Even in imagination one hesitates to strip off this last layer; for what lies within really is the core. Even if the human mind could grasp its nature, the dictionary would still be unable to supply the words needed to describe it. One must flounder, stammering, round it, groping for metaphors, in the hope that some casual word will accidentally illuminate it. No doubt the scientist would dearly love to vivisect the body if he thought that by so doing he could isolate the soul and hastily embalm it in technical terms before it disintegrated. But the scientist knows well enough that his clumsy instruments cannot perform the hazardous operation. He must leave it to the lover; and the lover refuses the attempt, not because he knows it is impracticable but because he feels it is impious. About this ultimate core only two things can be said that have any meaning at all. First, it is something that the artist himself knows nothing whatever about. Second, it is the only part of the onion that is really concrete. The rest belongs to the realm of the artist's eyesight or his imagination or his aesthetic urge. But here it the very centre, where one would expect to find oneself utterly free from the domination of tangible matter, is something that surprisingly depends on sable-hair brushes and powdered earth and linseed-oil, on charred vine stems and hand-made paper—stuff that can be purchased in the shop round the corner. It is as though one had stumbled on the extraordinary discovery that the body, far from housing the soul, is in reality housed by it, protected and encased and nourished by it. That it is the body and not the soul that contains the final secret of life.

This innermost core is a kind of chemical fusion between

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the artist's unconscious mind and his chosen medium. Each reacts on the other as inevitably as the interaction of two chemicals. No matter what subject the artist may have chosen to depict, no matter what aspect of his experience he may have chosen to stress, choice is no longer his once he begins to practise his craft. His hand and the brush he holds in his hand move in obedience to impulses over which he has no control. Each stroke of the brush on the canvas, each scratch of the needle on the etcher's plate, expresses something that has no more to do with his painterly or delightsmanly 'intentions' than a man's handwriting has to do with the meaning of the sentence he writes. In fact, if this innermost core is to be given a label, it may as well be called 'handwriting'. The word is inadequate. Though it points in the right direction, it is lamentably lacking in force. This fusion of unconscious impulse with conscious craftsmanship leaves an imprint on the picture far more definitive and significant than handwriting leaves on the sentence. It perniciously taints the whole work with the artist's personality. And it shows itself in terms of the natural behaviour of his medium. When Titian is painting his picture, he is engaged without knowing it in fusing littleness with paintness. For paint has a wilful, obstinate set of qualities and habits of its own which Titian can direct but can never alter, and Titian's brush obeys a set of inflexible impulses whose direction neither he nor his medium can deflect. How often have I listened patiently to a painter explaining precisely what he is aiming at in his picture, how he has tried to express this or that fine shade of emotional meaning, capture this or that overtone, and find a means of translating it into paint. What he said was usually true, and the account of his struggle to externalize his vision was usually revealing. But the important thing he always left unsaid. He never mentioned that his wrist insisted on moving in a different tempo, with a different rhythm from any other painter's in the past or the future. 'Insisted' is the

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wrong word, for it implies an obstacle surmounted, a hurdle cleared. In this business of handwriting there is no obstacle. It is the painter's most precious possession, yet it is his easiest task. The path from his unconscious mind to the tip of his paint-brush is free from all obstruction. The nervous impulses travel along it as easily and inevitably as an electric current along a copper wire. Perhaps that image does, in fact, supply the spark of illumination for which this central core of art has been waiting. The electricity is the quintessence of the artist's self: the copper wire is his medium, his little blob of paint, his little stick of charred vine stem, that beckon him along the only channel open to him. It is that quintessence, combined with that beckoning, that gives to every artist his own, unmistakable flavour and determines the shape of the stylistic signature that every painter scrawls unwittingly across his whole canvas.

The layers of the onion can now be seen in relation to each other. They form a progression. On the level of the skin the artist is an observer; on the next level, that of the outer layer he is a commentator; on the second layer he is an interpreter; on the third a visionary, and finally, when he reaches the core, a creator.

At each stage in the progression he leaves the tangible, visible world – the apple, or whatever it may be that he has chosen as his subject-matter – a little farther behind and explores the intangible, invisible world of his *vic intérieure*. Having explored it, he endeavours to find a visual symbol for it, and that symbol is the clue to his secret. Just as the anteater's snout is a symbol of his appetites and the gazelle's legs of his fear, so, in its deeper levels, the work of art is a symbol of the artist's appetites and fears, his final externalization of himself as an individual.

As a recorder of the apple's outward appearance, the painter has no individuality. He is at the mercy of the apple and of his

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own eyesight, just as a thermometer is at the mercy of the temperature of the object with which it comes into contact and of the nature of mercury. But as soon as he begins to exercise his sights as an individual and to take up an attitude to the apple – to love its greenness or to be bored with its roundness – he has taken the first step on the road to creation. And at the third layer, when he is no longer concerned with concrete apples but with abstract greenness, he begins to acquire the attributes of a creator. At that point, beauty in the mathematical sense enters into his creation, though this is a different kind of mathematics from Nature's. All the qualities I have described as belonging to the third, the aesthetic, layer are expressible in terms of mathematics. The harmonies, proportions, contrasts, juxtapositions, curves, are the pearls he has extracted from Nature's oyster because he had a passionate desire to discover them. And though it needed the original stimulus of the apple to initiate the desire, once it has been engendered the apple is no longer necessary. The pictured apple is now self-sufficient because it has discovered its own mathematical foundation. Like Nature, it is beautiful because it is obedient to law, but this time the law is its creator's sense of order and harmony. Briefly, the artist's attitude is, 'This shape and no other is the shape I desire'. Nature's attitude is, 'This shape and no other is the shape that will work'.

What forces have determined the quality and direction of the artist's desires is a question for the psychologist, just as what forces determined the laws of Nature is a question for the scientist. It is improbable that either question will ever be fully answered. Meanwhile, the art critic, who is concerned with effects rather than causes, can at least analyse the work of art even though its ultimate derivation remains a mystery.

And now, having peeled our onion, it remains for the analyst to put the layers back again, contemplate the onion once more as an integral whole, and to confess, rather shame-

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facedly, that it was never really an onion at all. It was no more an onion than it was a string of pearls. For, though it was arranged in layers exactly as I have described, the layers were never separate from each other. Its texture ran through from skin to core without a break, each layer melting imperceptibly into the next on the journey from the outer skin of objective description to the inner core of unconscious handwriting. The analyst may allow himself the licence of splitting the object of his researches into a set of arbitrary component parts, but having done so, he must confess that he was practising a harmless deception for the reader's convenience. Art can no more be thought of in terms of superimposed layers than water can be thought of as a mixture of hydrogen and oxygen, or a musical chord as a series of notes sounded in succession. The layers exist only in theory. In practice they interpenetrate each other so completely that in looking at a given work of art, the beholder is conscious of them all simultaneously, and is therefore not conscious of them at all.

CHAPTER 5

THE MEDIUM

COLOURED powder mixed with yolk of egg, spread by means of animal's bristles on to a surface of smoothed plaster; ink transferred to paper from grooves bitten by nitric acid in a plate of polished copper – these are all that the eye sees when one looks at Piero della Francesca's 'Nativity' or Rembrandt's etchings of 'The Crucifixion' (Plate 3a and b). The unbroken chain of cause and effect that begins with the dreams and aspirations of men ends in powdered earth and printer's ink or in stretched catgut stroked by horsehair or felt-covered hammers beating on piano wire.

Only by the construction of this chain can a work of art come into being, and only by that impact of the printer's ink on his eye or the vibrating wire on his ear can the spectator or the listener reach back, link by link, along the chain till he arrives at the dream that was once conceived in the mind of Rembrandt or Beethoven. And if, as I am convinced, love begat the dream, then one is faced once more with this strange process whereby love, working its will through the artist, expresses itself, finally, in ridiculously measurable terms, and emerges as a set of light waves or sound waves, expressible in purely mathematical formulae, operating in a purely mechanical way on the retinal nerve-ends or the ear-drum.

It is a familiar enough process despite its seeming absurdity. In fact it is the only process whereby communication can be made between one human being and another. Our only means of access to the universe we live in are our sensory nerves, and the only way in which the universe can affect them

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is through measurable vibrations. The lover expresses the infinite intensity of his longing for his beloved by converting it into sound waves, which the beloved converts once more into emotion by means of her ear-drum and the nerves which connect her ear-drum to her brain. But when the lover says, 'I love you,' he is producing a comparatively simple sequence of sound waves. When Rembrandt has finished saying what he has to say about the Crucifixion in terms of printer's ink distributed unevenly on a sheet of paper, he has created a set of light waves of far greater complexity.

The word 'medium', which does duty for this final material element in a work of art, is convenient but rather misleading. It is true that the printer's ink does mediate between Rembrandt's own private dream and our realization of it. Without the ink and the paper we should have no means of knowing the quality of his dream. But the word must not be thought of as meaning that every line scratched on the plate by Rembrandt's needle is, as it were, a copy of a line already visualized in his mind's eye. To regard the movements of the artist's hand as the result of a series of commands from his creative mind is to oversimplify the process known as 'technique' and 'craftsmanship'.

Those commands certainly do operate the etcher's needle, but even while they are doing so the needle itself is sending messages back to the creative mind. The medium has a will of its own, a behaviour natural to it, which the artist must take into account. And the process of taking the will of the medium into account is the essence of craftsmanship. If he ignores the medium's natural behaviour and forces his own will on it, he does so at his peril: if he yields too easily, allowing it to dominate his will, that, too, he does at his peril. The secret of craftsmanship lies in exploiting the medium, making it subserve his will without forcing it into a behaviour unnatural to it. Like the Japanese wrestler who turns his

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opponent's effort to his own advantage and makes him assist in his own downfall, the artist amalgamates the medium's will with his own

In order to do so he must be acutely sensitive to the messages that travel back to him from the needle's point – complaints about too much pressure, requests for more speed, hints that the grip of the fingers on the stem of the needle must be relaxed a little if the line is not to lose its flexibility. An endless series of conferences must take place in the artist's mind as these messages come pouring in and modify or are modified by the orders that go out. This portion of the line must be as rigid as a bar of steel, *here* the tension can relax and the needle can, if it wants to, glide carelessly over the copper surface like cigarette smoke coiling through the air, now for the emphatic change of direction where the seductive sensation of the point sliding over the metal surface must at all costs be resisted.

In the case of Rembrandt's etching of 'The Crucifixion' we are in the fortunate position of being able to follow his changes of intention, as he worked, by studying the different 'states' of the plate. One sees, not only the process of elaboration, but of revision and even of major alteration. And it is not difficult, in comparing one 'state' with the next, to guess which modifications were suggested by his sense of the medium's possibilities and which by his deepening conception of the theme itself.

The medium dictates its own terms to the artist. Consequently it is not enough to regard him as a man with a dream who translates his dream into a mental image and then translates the image into visible terms. During the process of translation the dream itself suffers a change.

There is, of course, no possibility of defining the change. There is certainly a relationship between a mental image and its final translation into visual form. But the two can never

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be compared. It is not merely that they belong to different categories which by their very nature cannot be compared: but also the dream is the private property of the artist and its very existence can only be deduced from the existence of the translation. The two are related in the sense that the Platonic 'phenomenon' is related to the 'idea' of which it is a shadow. The artist himself 'knows' the precise nature of his dream, but his knowledge is of no avail to us since his communication of his knowledge to us can only take the form of a translation, and that translation is the work of art. He can attempt to express in words just how and to what extent he has failed to make the translation fit the dream, but his words themselves are merely another form of translation. We are cut off from his real life, his inner life, by the simple fact that he is an individual whose only hope of making emotional contact with other individuals is by the purely physical process of affecting their sensory nerves. The artist can do no more than trust that the messages they communicate to our minds will bear a rough similarity to the messages originally sent out by him while he was making his work of art. We, at the receiving end, are in the position of people condemned to communicate with our fellows by telephone only. The noises we hear cannot be compared with human voices, for we have never heard human voices. Therefore we cannot tell whether any defects we may find in them are due to the halting speech of the subscriber at the other end of the line or to the strange behaviour of the telephone itself.

The problem, however, is purely academic. To the philosopher it may be of some interest, but for the art critic it does not arise. His concern is not with the word that was spoken but with the word he has overheard. And half the fun of his job lies in comparing the quality of one telephone with another. The other half lies in making guesses about the nature of the 'distant subscriber'.

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Manifestly this book, whose avowed object is to define the nature of beauty in art, must be largely concerned with the origin of the noises heard on our metaphorical telephone, but it cannot afford to ignore the nature and behaviour of the telephone itself. I do not propose to describe in detail the precise characterization of each type of medium: there is an abundant literature on that subject. But it will be necessary at least to refer to the *kind* of modification which the chosen medium is likely to make on the artist's vision.

Certain artists are instantly recognizable as having 'exploited' their medium to the full. They are not necessarily the greatest and many of them are second-rate artists who are content to use their art as a means of advertising their skill in handling their medium. But what differentiates them from the type of artist who is not primarily a great craftsman or technician is that they have been exceptionally sensitive and obedient to the messages conveyed to the mind by the medium itself. If they are great creative artists, like Velazquez or Rembrandt, the result is a magnificent collaboration between the medium's behaviour and the creative will. Where the creative will is weak or the vision mediocre but the handling masterly, the word 'slick' has been invented to express just that victory of 'handling' over vision that invariably results in a mediocre work of art. Between the two extremes are artists like Franz Hals, whose technical facility makes one suspect that the messages from his brush to his mind were more urgent than those operating in the reverse direction.

But though it is usually possible to guess, in the case of a given artist, just how sensitive he has been to the behaviour of his medium, to what extent he has taken advantage of its possibilities and to what extent he has ignored them, he can never ignore them entirely, because he is, by definition, a man who has expressed himself in terms of a *chosen* medium. And his only reason for choosing one medium rather than another

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is his sense that, for the purpose of what he has to express, the chosen medium is somehow more eloquent than all others. It is for the psychologist to discover why sound is eloquent to the musician, pigment to the painter, movement to the dancer. But the critic's job is to note how the mode of expression has, paradoxically, modified the flavour and even the very essence of the thing expressed.

Looking back at the history of media in the visual arts, it is evident that the purely technical discoveries that have been made were not made by chance. The development of oil painting, for instance, depends on nothing more revolutionary than the mixing of dry pigment with oil instead of with yolk of egg or any of the other vehicles commonly used before the fourteenth century. It might seem mysterious that this simple invention had not been made earlier, but the need for it had not yet arrived. It was not an invention made for invention's sake but a development evolved to meet a new need, just as the laws of perspective were not formulated by scientists in pursuit of truth but by artists in search of a means of grappling with the world of phenomena. As long as the artist's main preoccupation was with contour and structure, the media of tempera and fresco were entirely adequate, but once he had begun to be conscious of the surface enclosed by the contour and the play of light across the structure — *inevitably* later developments in the process of seeing — those media became unsatisfactory. For the painter's new purposes they ceased to be eloquent. Tempera was as incapable of expressing the innumerable variations of tone on a surface as thick oil paint was of expressing the tensions and modulations of line that were the common language of an earlier generation of painters.

Yet the change took place gradually. Giovanni Bellini's first full-scale essay in the new medium was probably the 'Madonna of St Job' altar-piece, painted in about 1480 (Plate 4).

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Already there is a richness of surface texture and an emphasis on breadth of shadow that were new in his work, and it is significant that he has attempted, in the architectural background, to depict a semi-dome encrusted with gold mosaic – surely the most ‘painteily’ effect that an artist could tackle. It would not be true to say that *tempera* would have defeated Bellini’s purpose. It is a transitional picture. But it would be true to say that hardly any Venetian picture painted after 1500 could have been painted without the oil medium. One has only to look at the sleeve of the so-called ‘Ariosto’ portrait by Titian in the National Gallery (1508, Plate 5) to see how the visual preoccupations of the artist have changed. The jutting surface remains in the memory. Its shape is meaningless. Titian’s early frescoes in Padua (1511) have an uncomfortable air. Not that Titian lacked the skill to manipulate the fresco medium, but that the potentialities of fresco are unrelated to the intentions of Titian. In his hands it cannot attain the eloquence which it had for Raphael.

The vital – but unanswerable – question is, how far does the medium suggest a new set of intentions to the artist, or how far can it release and encourage a set of latent, half-realized intentions? It is certain that Bellini, discovering to his delight the ease with which oil paint would respond to his growing realization of surfaces, was encouraged to concentrate even more whole-heartedly in his next picture on that aspect of visual experience – but that, having at that stage of his career (he was fifty when he painted the St Job altarpiece), formed a set of technical habits, he found himself unable to push the new medium’s potentialities to their logical conclusion. It was easier for Titian, in his early thirties, before technical mastery had hardened into habit, to use oil paint as he used it in Ariosto’s sleeve; and, having done so, to continue for the rest of his life to explore the possibilities of the medium until he reached the point where he could concentrate almost

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entirely on surface-shimmer, as in the 'Christ Crowned with Thorns', in Munich, of 1750 (Plate 6). The greatest technical innovators have not, usually, been the original experimenters in a new medium, but the men who followed them and were able to speed up the tempo of the change.

But it is fascinating to note how, once the change has taken place and the artist's vision has been modified by his medium, *any* medium will serve to express it. For example, one might have thought that no medium would be less capable of expressing the play of light on surfaces than pen and ink, and that of all media, sculpture could never avoid expressing it. Yet one has only to compare a pen drawing by Leonardo, however rapid, with one by Rembrandt or a portrait bust by Donatello with one by Bernini, to see how deliberately the Rembrandt drawing avoids calling attention to the contour and refuses to be explicit, or even graceful, in its line. The emphatic lines used have no linear counterpart in Nature. The scribble of parallel lines over the back of the near disciple (Plate 7a) are not contours but an indication of the precise angle as the figure leans suddenly backwards in surprise. The parallel lines on the back of the Virgin in Leonardo's drawing (Plate 7b) follow and explain the *form* of the figures, and are therefore, in essence, a series of contours like the contour lines on a map. Donatello, though he is employing a medium that deals in surfaces, somehow rivets one's attention on the line of the folds of drapery or the line of the hips, nose, and cheekbone (Plate 8). Bernini goes out of his way to break such lines and to defeat the eye's attempt to follow them through, carefully conceals the contour of the cheek against the broken curls of the wig, and obscures the hard sweep of the metal shoulder-piece against an irresponsible flutter of drapery (Plate 9).

The object of this short chapter is not to describe what effect the medium can have on a painter's vision, but to draw attention to the way in which this two-way traffic of command

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and request, domination and yielding, operates between the painter's soul and his hand.

Again, as so often before, in analysing the genesis of a work of art, one is brought face to face with this phenomenon of a balance of forces, a set of intersections between factors that seem, at first sight, to conflict with each other, but in the end achieve a balance on which the total effect of the work of art depends.

CHAPTER 6

THE 'MYSTICAL MARRIAGE OF ST CATHERINE'

It will clarify my general argument if I take a single painting and submit it to a brief analysis on the lines I have indicated in the previous chapter. Any painting will serve, but in the interest of impartiality it will be advisable to choose one that does not belong to our own time, lest the artist's personal set of loves and hates, preferences and boredom, should be too unfamiliar and disturbing. And for the same reason, a picture fairly representative of its period and of the place of its origin will be preferable to one that made, even in its own day, too novel, too personal, a contribution. Veronese's 'Mystical Marriage of St Catherine' in Venice (Plate 15) fulfils these conditions well enough. It is representative of Veronese, just as Veronese is representative of the Venetian School of the mid-sixteenth century.

Its outer representational skin presents no difficulties. The legend of the Alexandrian saint who, renouncing all earthly ties, was privileged to enter into a mystical alliance with the infant Jesus, was a popular one in the sixteenth century. Any artist commissioned to paint an altar-piece for a church of St Catherine had his subject set for him. There is therefore no question of Veronese 'choosing' the theme. The subject of the picture has no significance for us as a revelation of Veronese's temperament. The fact that St Catherine was regarded in his day as 'one of the fourteen most helpful saints' throws a sidelight on the development of religious thought, but to inquire into the reasons for St Catherine's popularity

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would be to analyse, not our onion, but the field in which it grew. Veronese's representation (as opposed to his interpretation) of the legend is clear. The saint, a Venetian matron dressed in an elaborate and expensive dress of the period, ascends the richly carved steps leading to a throne on which the Virgin is seated. The Child in her lap places the ring on St Catherine's finger. Three attendants are with her, two of them watch the ceremony while the third looks up with an appropriate gesture to a sky peopled with cherubs, two of whom are descending with a crown. Angels adoring or making music attend the Virgin. Two fluted Corinthian columns complete the architectural setting. The impossibility of distinguishing between an artist's description and his comment or interpretation becomes evident as soon as one attempts to put the picture into words. The elaborate dress, the carved steps, the fluted columns are themselves a comment. An opulence pervades the picture which belies its subject. It almost looks as though Veronese had been at pains to eliminate every hint of the mystical. Certainly no one who was not familiar with the legend would easily guess at the kind of mystery he was depicting. The effect is of a decorously conducted social ceremony. What would have been easy for almost any fifteenth-century painter – a Piero della Francesca or a Sassetta – is impossible for Veronese. The Renaissance, which for two centuries has been pursuing its steady exploration of the material world, has by this time left the mystical world too far behind. The whole meaning of St Catherine's refusal of an earthly marriage is cancelled out, partly by Veronese's power to represent so adequately the texture of the material world – a power he inherited from and shared with other Venetian painters of his own and the preceding generation – and partly by his particular feeling for material opulence, his incapacity to hint at the deeper implications of this or indeed any other religious theme. Titian, despite his under-

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current of worldliness, seldom failed when he wished to suggest tragedy and mystery. In him and in Tintoretto there is a depth of human understanding that often finds itself in conflict with worldliness, but can always emerge victorious from the conflict whenever the theme demands it. With Veronese, despite his high seriousness, there is no conflict. He is partly a victim of the time-spirit and partly a creator of it. The climax of the High Renaissance, that critical moment when almost everything was possible in art, is past, and Veronese, for no other reason than that he was born fifty years too late, is on the downward slope. That he is content to be so can be seen from the assurance with which he tackles his problem. His confidence in his own world helps to accelerate the descent. This is no picture of a mystical marriage. It is a picture of Venetian citizens taking part in a pageant representing the event. That could not have been said of any Venetian artist before him, not even of Carpaccio. He marks the point at which the spiritual overtones of the Middle Ages finally disappear and leave the field free for the later Baroque attempts to find a substitute for them.

But if Veronese was debauched, through no fault of his own, from painting the deeper aspects of his subject, his contribution to art was not on that account negligible. To dismiss him as 'worldly' without asking what are the positive virtues of worldliness would be like condemning a palace because it was not a cathedral. Incapable of conceiving a cathedral, Veronese is without rival in the construction of palaces.

It is at this point that our inquiry brings us to the second layer, the layer of interpretation. Veronese's comment on his given theme is absurd, but his interpretation of life is as remarkable as it is personal. No one has ever expressed radiant well-being, no one has ever painted the ornate seemliness and dignity of human civilization as he has. Asceticism has been left behind, but decadence has not yet set in. It is a moment of

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balance – not the earlier balance between body and soul, but the balance between the body and the forces of earthly exuberance or, later still, of intellectual sophistication that are ready to attack it once the soul has lost its ascendancy. The attack has not yet developed; indeed, it would be truer to call it a moment of transition rather than of balance.

Every period has its destined place in the rise-and-fall pattern of civilization. And every period, because of its place in the pattern, has its own potentialities, a set of values that belongs to it and to no other. In every age an artist emerges to express those values more convincingly than his fellows, and Veronese achieved as complete an expression of the spirit of his generation as any artist has ever done.

Such a statement cannot be sustained by argument, for it is only by looking at an artist's work and at that of his contemporaries that we know what his generation stood for. But in the paintings of men who are completely in tune with their surroundings, men born neither before nor after their time, one is always aware of a superb confidence. And that confidence – as though he knew that whatever he did, however novel or astonishing it might be, it would never puzzle or embarrass his contemporaries – is the mark of Veronese. Even when the Inquisition took him to task for the excessive materialism of his 'Feast in Levi's House' (Plate 10) painted for the Dominicans of SS. Giovanni e Paolo, his answers to the interrogators read like those of a man who knows that he has public opinion on his side. His interrogators might be technically in the right, but they were clinging to an old-fashioned set of standards which neither Veronese nor his patrons could take seriously.

Veronese's worldliness is unique in painting. It is so noble and serious, and yet so friendly and informal. It is radiant with health and normality, and yet dazzling and exotic. The elaborate architectural settings never overweigh the figures,

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nor do the costly fabrics diminish them. Sanity and splendour combine in equal proportions. His figures are never troubled. No expression on their comely faces contributes much to his meaning, no gesture ever expresses more than a generalized contribution to the action. Giotto, for whom gesture was all-important in establishing the inner meaning of his narrative, or Leonardo, always on the alert to discover the connexion between a man's mind and his actions, would have found Veronese a superficial decorator and his St Catherine an over-dressed doll. Yet in spite of, and also because of, his disregard of drama, he is able to establish his unmistakable mood more surely. It is the mood of a man so content with the surface of life that he truly feels disposed to go behind it. More than that, he is so much in love with it that his paintings become lyrical. They are elaborate odes in praise of seemly living. Even the four angels who make music on the steps on the left are additions to the social amenities of the ceremony. They are as solid as their lutes and the abandoned viol da gamba. The two singers are assiduously reading their score. Their wings are a relic of a past age, and Veronese suppresses them as far as he dare.

Such men have one advantage over profounder artists. Their work has unity and breadth. Nothing seems to them unimportant or irrelevant, therefore everything contributes to the total effect. To a Michelangelo, for whom nothing matters but the majesty of the single individual, the accessories of life are a positive barrier between him and his theme. His Adam and Eve inhabit no desirable garden because he himself is incapable of desiring a garden. But for Veronese the spectacle of Life is an ensemble in which clouds, columns, brocades, and jewels are not mere accessories to his crowds of citizens and angels. They amalgamate with them.

He is, in fact, a stage designer who conceives his scenery and costumes as an integral part of the play. He is not the first

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to have done so, but he is almost the first to have done nothing else. It is essentially a Venetian characteristic, and the first to practise it on a grand scale was Carpaccio, whose temperament so closely resembled Veronese's. Allowing for the stylistic changes during a half century of exceptionally rapid development, the parallel between the two men is very close. Colourful but dignified pigmentation is the basic theme of both, and occasionally, in moments of greater sensitiveness, both could produce a 'freak' picture that is simpler than usual and strikes a little deeper. Carpaccio's 'Vision of St Ursula' is such a picture, and so is Veronese's 'Vision of St Helen'.

Closely related to Veronese's manner of feeling about his world is his way of seeing it. But here he is not quite such a recognizable child of his age. It is not always easy to disentangle the mode of seeing from the things seen, especially in a picture so packed with contemporary doomsday items as this. The fact that he was more interested than Titian or Tintoretto in the specific appearance of contemporary architecture, ornament, and dress led him to be more specific in his painting of them. And this in its turn forced him back to a slightly archaicistic way of looking at things in general. In an age when the technique of painting was rapidly becoming blander and more Impressionist Veronese clung in many respects to the harder manner of the first half of the century. The folds of draperies are more explicit. The light is more evenly distributed, the surfaces have less vibration, the patterns are more strongly marked. Veronese's way of seeing on which this is based is that of the earlier Titian, the Titian of 'Sacred and Profane Love' and the Pesaro altarpiece. He has certainly not reached the point at which Tintoretto had arrived - of missing his shadows in great blocks of darkness and of not caring if his outlines and his local colour were obliterated in the process.

'Has not reached the point' may seem a meaningless phrase

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if an artist is thought of as having perfect freedom to choose his own way of ‘seeing’. But his freedom is by no means perfect. It is bound within very narrow limits. When a painter uses an outmoded idiom, it is because of his innate conservatism: it is never because he has understood but rejected the idiom of his day. Veronese’s explicitness of form and his refusal to mass his shadows more boldly are the outward manifestations of an attitude of mind. An artist sees only what he wishes to see and he wishes to see only what he loves. Veronese loves the richness and the full of material, and in the arm of his picture beneath St Catherine’s extended arm, which Tintoretto would certainly have thought of as being lost in shadow, he cannot bear to abandon his eye’s search for the folds of drapery. Tintoretto’s habit of letting the shadow cut across the form (note the head of ‘Christ in his Deposition’, Pl. 17) is so unusual to Veronese that in only one of the heads in the crowded lower half of the picture – the head that fits in above St Catherine’s bent elbow – does he allow himself to adopt it and even then he does it half-heartedly.

His planning in depth too, is out of date. The daring movements into and out of the picture that are so characteristic of Tintoretto, are useless to Veronese. Remembering that others progress up a flight of steps in Tintoretto’s ‘Presentation of the Virgin’ (Pl. 13), in which the shortened arm of a woman in the near foreground positively hauls the spectator into the middle distance where the Virgin stands facing the High-priest at the top of the steps, this side-to-side movement of Veronese’s, in which the action takes place ‘down stage’ and in a plane parallel to the plane of the picture itself, again strikes one as timid. Living at the very moment when movement in depth is becoming one of the artist’s major problems, Veronese refuses to concern himself with it.

I have called him a stage designer. So to some extent is every artist, in that he disposes the elements in his picture in the

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way that will be most effective for the spectator. And, in particular, every Venetian artist in the succession from Jacopo Bellini had been conscious that his stage design must consist of a convincing environment *containing* his actors, rather than an effective grouping of actors to which a backcloth and wings could be added. That had, of course, been the Florentine method, and Jacopo's sketch-books are a vigorous protest against it. But the effect established by Jacopo, perfected by his sons and enlarged by Giorgione and Titian, was still of a stage seen from an auditorium. One is as conscious of the picture-plane, and especially of the lower edge of the frame, as one is conscious, in a theatre, of the footlights, the near edge of the stage.

Tintoretto, by the simple device of imagining himself *on* the stage (and thereby dragging the spectator with him), revolutionized for a whole century the science of picture planning. At once it becomes not only possible but natural to witness a Last Supper or a Crucifixion from the side or a Nativity from below. He compels the spectator to become one of the actors; the footlights disappear, and with their disappearance vanishes one's sense of the picture-plane, that impalpable veil that cuts the spectator off from the world he looks at. One is in the same room as Jesus and his disciples, one is at the foot of the cross, one becomes a shepherd looking up at the Mother and the new-born Babe.

The revolution had little effect on Veronese. Pageantry being his theme, it was essential that he should retain the veil that separates the actors from the audience. The picture's arrangement must be from side to side. Movement must take place across the canvas, not into it.

Nothing could more clearly prove the interpenetration of the layers of the onion than the fact that in describing Veronese's temperament one finds oneself becoming imperceptibly involved in an examination of his system of design.

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There is no abrupt transition between the artist's attitude to life and his aesthetic. At what point in our analysis can we say that we have now transferred our attention to the aesthetic layer, if it is possible to pass, without a break in the argument, from noting a man's particular kind of worldliness to describing his particular method of picture planning? Yet, though his method of picture planning is his only way of expressing his attitude to life, it includes much more than the phrase, in its everyday connotations, usually implies. And that 'more' is the purely visual beauty which it is the object of this book to isolate and to see in relation to the other values contained in the work of art. It may be true to say that there is no fixed point at which the transition between the interpretation of life and the creation of beauty takes place, but it is certainly possible to reach a point at which one can be sure that it *has* taken place. Once we find ourselves using the language of mathematics, we can be sure that we are no longer looking at the picture as an interpretation of a man's emotional attitude to the world he lives in. It has begun to take on a formal aspect which cannot be explained by references to the legend of St Catherine or the spirit of sixteenth-century Venice or the relationship between Veronese and his environment, but which can be hinted at by saying, for example, that Veronese has, in this picture, made extraordinary use of a slowly mounting diagonal that moves in a kind of counterpoint against a set of horizontals and verticals.

That is the kind of physiology the art critic is sooner or later compelled to use, and as soon as it appears the reader's attention inevitably slackens. The reader is no more than human, he may understand, but he can hardly be expected to enjoy, a description of a mathematical figure, for the description, however accurate, cannot achieve the effect of the figure itself. It cannot appeal direct from the eye to the mind. The words 'diagonal' and 'vertical', however clear their

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meaning, have none of the immediate emotional effect of a diagonal or a vertical line. The verbal equivalents for such lines would be, perhaps, 'energy' and 'aspiration'. No wonder, then, that critics, as soon as they begin to analyse the mathematical basis of a work of art, and to see the painting as architecture or the architecture as music, tend to become wearisome. To say that a Gothic cathedral is dominated by verticals is true, but it leaves out of account the important fact that a set of vertical rhythms has a special power of thrilling the eye, turning the beholder into a lover. If it were possible to explain the process whereby mathematics engenders love, and the rhythms of a cathedral produce a feeling in the beholder which only the word 'beautiful' will express, art criticism would be easy. The problem here is not the same as that of beauty in Nature. Certainly both depend on a recognition of orderly and law-abiding behaviour, but since the natural laws that produce a pine forest are inevitable, unalterable, and universal, the notion of criticism of them does not and cannot arise. But the laws that produced the similar rhythms of the cathedral, being laws based on human preference, can only be examined in the light of human preference. If the whole of the thirteenth century in western Europe fell, literally, in love with vertical lines, then we of the twentieth century can only see their work as 'beautiful' in proportion as we can share their love.

It is not difficult for us to do so, for love is both infectious and narrow. By isolating and intensifying his verticals, the Gothic builder could stress them and interrelate them far more effectively than could happen in any pine forest where no such process of isolating or intensifying of a single theme has been at work. We can 'catch' the enthusiasm of the artist in a way that is impossible with Nature, whose forms are not the product of enthusiasm.

But to 'catch' the artist's intention by infection is one

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thing. To translate it out of his chosen medium into words is another. It can be done to some extent on all the outer levels, but not on the aesthetic level. The effect of a Gothic cathedral can only be expressed in visual terms. The eye alone, without any assistance from knowledge or reason, communicates the visual message to the brain, where it becomes translated into aesthetic emotion as surely and as mysteriously as the white light that falls on a geranium is translated into what we call 'red'. In order to translate that particular emotion into words, one would have to resort to verbal imagery about the lark ascending, the soaring rocket, the upward glance of the saint in ecstasy. Yet just as these concrete images are included in and transcended by the pure mathematics of the cathedral, so does Veronese's series of diagonals include and transcend his narrative of the legend of St Catherine.

The critic, then, must choose between writing a poem which will be the emotional equivalent of Veronese's pure architecture, and undertaking a cold analysis whose only virtue will be to point out how Veronese's architectural idiom differs from that of other artists.

It is certainly not a revolutionary idiom. Veronese was not an original, but his power to vary existing inventions a stage further was remarkable. Consider, for example, this device of the diagonal. It is an inevitable result of the decision to abandon the earlier device of symmetry - the chief basis of pictorial composition throughout the preceding century. Symmetry, the placing of the main accent in the centre and building up to it on either side, resulted in the pyramidal composition familiar in formal altarpieces throughout the fifteenth century. Titian's 'Pesaro Madonna' (painted in the early twenties of the sixteenth) is perhaps the first major protest against the domination of the pyramid, and it must be looked upon as the prototype of Veronese's picture. All the elements are there, the Madonna enthroned high and to

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the side, the steps leading upwards from left to right, the sequence of figures ascending them, the group filling the vacant corner under the new diagonal, the two columns, the open sky, and the cherubs. But Veronese's confidence in an asymmetrical scheme is greater than Titian's. Titian must have felt the need to compensate for his bold removal to one side of the enthroned Virgin and the consequent danger to his picture's stability, by balancing her with the great mass of the Pesaro family banner, by steadyng the whole with an emphasis on the horizontal steps and the rectangular throne, and an even stronger emphasis on the farther of the two columns by setting its darkest edge against a radiant cumulus cloud.

Without the 'Pesaro Madonn*i*' Veronese could never have planned his St Catherine. With it he found courage to go beyond it. The diagonal movement in Titian's picture rises to a climax in the Virgin's head and sinks down again along the arm of St Francis. There is a similar sinking in Veronese's picture along the playing angel's lute and the singing angel's wing and arm. But now it is subsidiary. The main movement is carried on by two angels *above* the Madonn*i*, and still further by the absurd invention of the drapery wrapped round the columns, and finally vanishes with a tiny triangle of luminous sky at the picture's edge.

Not content with this main theme, Veronese starts another, rather steeper, diagonal in the left-hand corner, beginning with the viol da gamba and running upwards in a broken but energetic ascent through the four musician-angels.

It would be tedious to work out the picture's scheme in detail. The reader can easily do it for himself, if he is interested. What is important is to note the stage at which Veronese has arrived in the transition from Titian's first daring protest against symmetry to Rubens's complete acceptance of the diagonal in his famous 'Descent from the Cross' (Plate 16), in which all trace of symmetry has disappeared and the necessity

for steadyng horizontals and verticals is no longer felt. Veronese, for example, still feels the need to refer to a centre line sufficiently to arrange his aerial cherubs roughly into a festoon whose centre is also the picture's centre, with the crown-bearing cherubs making a strong diamond-shaped feature in the middle. Below them the upward gaze of the saint's attendant, and above them a particularly emphatic cloud, form a rudimentary centre line – the last vestige of the line which would once have been the backbone of such a composition.

These main constructional lines are, as it were, the picture's skeleton, but the skeleton is not all. Texture or pattern, which means large-scale texture, is another ingredient in the aesthetic sum, and Veronese's texture is an important factor in his final effect. Considered as pattern, the painting has an unusual and enchanting density. Not only are the figures more closely packed than is habitual with his contemporaries, but each figure contains within itself a more consistent pattern. The ripples that dance across its surface are smaller and closer, and they have suaver, gentler rhythms. Nowhere do they become violently agitated, but nowhere are they allowed to disappear. The fluted columns and the carved steps are, on another level, indications of a liking for elaboration in architecture, but on this level they show Veronese's abhorrence of plain surfaces of paint. The columns and the steps in the 'Pesaro Madonna' (Plate 14) are smooth, the sky less patterned, the draperies less evenly furrowed with folds. Again the parallel with architecture is inevitable. The 'Pesaro Madonna' has a texture comparable with the West Front of Chartres (Plate 18). 'The Marriage of St Catherine' (Plate 15) is more like Rheims (Plate 19), where an even roughening of the surface with masses of smallish sculpture increases the richness but detracts from the dignity of the façade as a whole. Titian is in all respects a greater artist, but apart from the relative statures of

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the two men, Veronese's general texture is a later as well as a less noble invention. It was inevitable that he should aim at greater richness, just as it was inevitable that Rheims should be richer and smaller in texture than Chartres. The tide had set in: every artist can contribute to the *Zeitgeist*, but only at exceptional moments can an artist reverse its direction, and the second half of the sixteenth century was certainly not one of them.

In my exposition of the onion's structure, I had to admit that the core is a mystery beyond the reach of words. There is no need to repeat or elaborate that confession now. It is less possible to throw light on a particular act of creation than to discuss the creative act in the abstract. The spectator and the creator are face to face, and if they cannot make intuitive contact with each other on this level, no third person can help. The only appropriate remark is a reminder to the spectator that in looking at a reproduction, however good, he is not looking at the picture. Ninety per cent of what goes to make its 'handwriting' is obliterated. The final contact between Veronese and the reader of this book can only be made in the presence of the painting itself.

In our daily experience of life there is no parallel to the phenomenon of interpenetration. In the world of matter it is not possible for more than one thing to be in the same place at the same time. Even a specially constructed onion with layers fading into each other as well as enclosing each other provides no parallel. Even could it be seen by X-rays, whereby all the layers can be seen simultaneously, the analogy would break down. For in the work of art, though the layers undoubtedly exist and their relative levels lie in the order I have attempted to describe, yet each is an *aspect* of the others and each nourishes and intensifies the others. Remove a single one and the others become impoverished and begin to lose their own significance.

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When the 'abstract' artist deliberately removes the outer in order to concentrate on the inner layers, he is presumably content with a smaller onion, but he fails to realize that the result is not only smaller but poorer. The mutually cumulative effect whereby the look of the visible world enriches the artist's sense of harmony, and his sense of harmony quickens his perception of the physical world, is lost as soon as the artist begins to sacrifice any portion of his birthright. The impoverishment is evident enough when, through the unavoidable limitations of the artist's temperament or imagination, one or more of the layers becomes thinner than the rest. Veronese's incapacity for tragedy or ecstasy is a case in point. But when the artist voluntarily and deliberately limits himself still further, he does so at his peril. A boxer who shackles his feet because of a theory that boxing becomes somehow 'purer' if its practice is confined to the arms and fists, actually limits the potentialities of his arm-and-fist work.

It is only when one layer is allowed to develop at the expense of the rest that art becomes mediocre or contemptible. The magazine cover in which feminine seductiveness, or the comic strip in which narrative clarity has absorbed all the artist's creative impulses are contemptible, not because of their insistence on sex appeal or their concentration on anecdote - Titian and Boucher could rival them in the former, Giotto and Goya in the latter - but because of their lack of enrichment from the inner layers. They are hollow and for the same reason that abstract artists are small. In their case, not the outer but the inner layers are missing.

The number of artists who have developed themselves with equal power at all levels is not large. They are the men who have produced the greatest art, though it would not necessarily be true to say that they were the greatest geniuses. Genius is probably less rare than is generally supposed, but it is not the only factor required for such an achievement.

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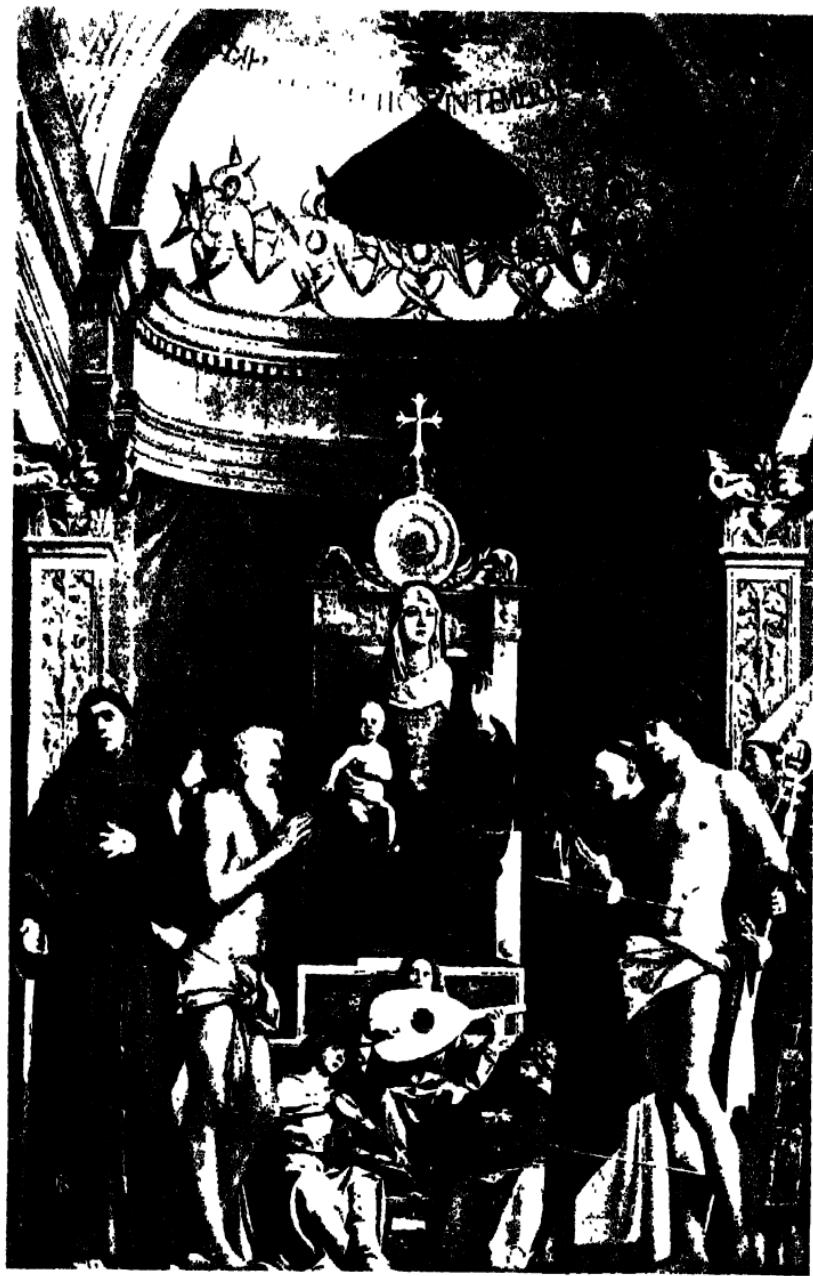
Genius, in order to come to full fruition, must synchronize with the favourable moment in history, and such favourable moments occur only at long intervals. When they do, great artists appear with a frequency that could not be explained if the law of averages alone were operating. That Botticelli, Michelangelo, Leonardo, Raphael, Titian, Giorgione, and Giovanni Bellini were all alive and mature in the year 1510, and that they all happened to be of north Italian birth, is no coincidence. Nor is it a coincidence that no European artist of more than mediocre stature was alive in 1680.

This is not the place to discuss the factors that produce favourable moments. Certain artists – Giotto, for example – by virtue of their genius, have occurred in unfavourable moments, and have, none the less, managed to develop on all levels. But in general the great geniuses have depended for development as much on the fructifying properties of their environments as on their own potentialities. Had they been born in another century they would have been lesser men, in the sense that the even balance, the complete interpenetration of the different layers of their work, would have been upset. Almost always these men became furious in their own day, for they all possessed that easily understood humanity which Tolstoy wrongly thought of as the test of great art. But only posterity has seen their true greatness; for their creative power does not become apparent until generation after generation has contemplated it and understood it; until it has survived the switchback of taste and proved itself valid by the varied succession of tests to which the centuries submit it.

Raphael's meaning for his contemporaries was very different from his meaning for the mid nineteenth century: and we, in the twentieth, see him differently again. But the fact that his art was rich enough to satisfy the demands of four centuries so different in their values is the surest proof of his stature. But



3 a and b Rembrandt 'Crucifixion', the first and fourth states
of etching British Museum London



4. Giovanni Bellini, 'Madonna of St Job'. Accademia, Venice



5. Titian, 'Ariosto portrait'. National Gallery, London



6 Titian, 'Christ Crowned with Thorns'. Pinakothek, Munich



a. Leonardo da Vinci Drawing



b. Leonardo da Vinci Drawing Accademia, Venice



8. Donatello: Bust of Niccolò di Uzzino. National Museum, Florence



6. Bernini, Bust of Francesco II d'Este. Estense Gallery, Modena



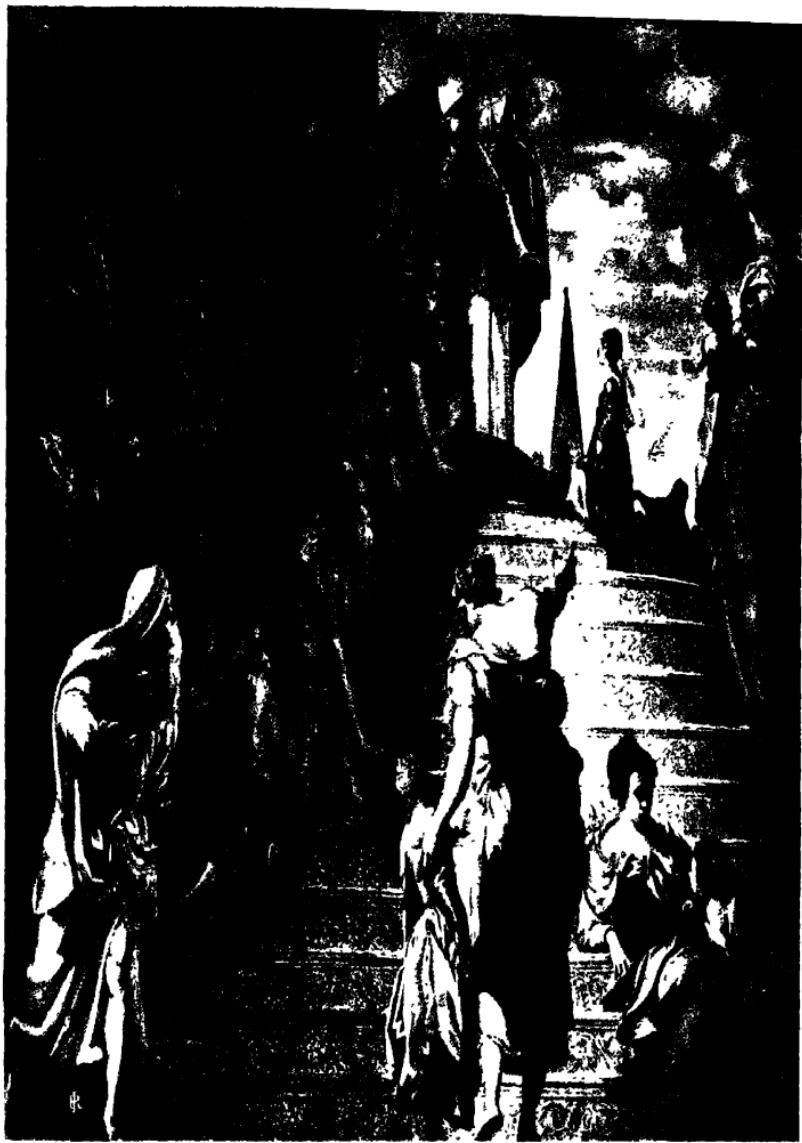
10. Veneza. Facciata del Palazzo Accademia. Venice



11 Carpaccio 'St George Baptizes the Princess' Church of San Giorgio Venice



12 Tintoretto, 'Deposition'. Accademia, Venice



13. Tintoretto, 'Presentation of the Virgin' Church of the Madonna dell'Orto, Venice



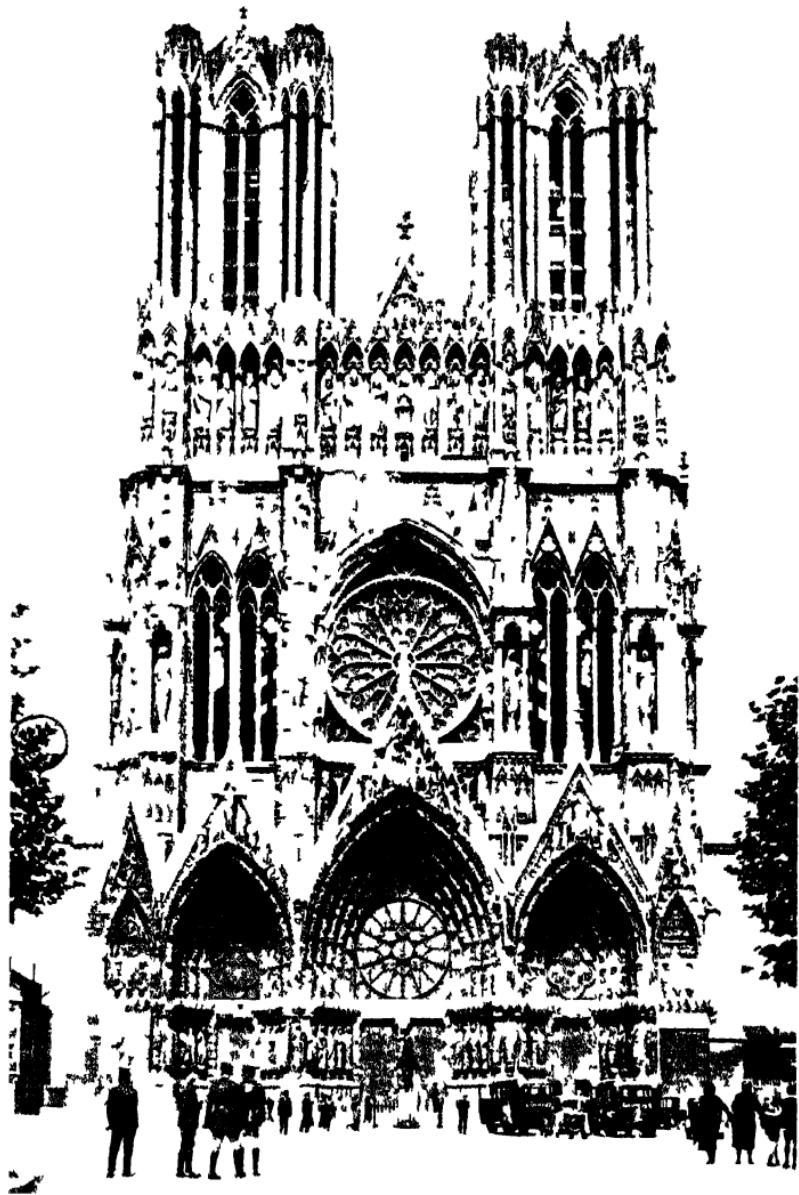
14. Titian, 'Pesaro Madonna'. Church of the Frari, Venice



15. Veronese, 'The Mystical Marriage of St Catherine'. Accademia, Venice



16 Ruben Descent from the Cross Antwerp Cathedral



12 Reims Cathedral West Front



30. M. C. Escher, 'Agony in 'The Garden' National Gallery, London



21. Giovanni Bellini, 'Agony in the Garden'. National Gallery, London



22. Crivelli, 'Virgin and Child Enthroned' National Gallery, London



27 Antelope mask from the Ivory Coast. From the Plow Collection, British Museum



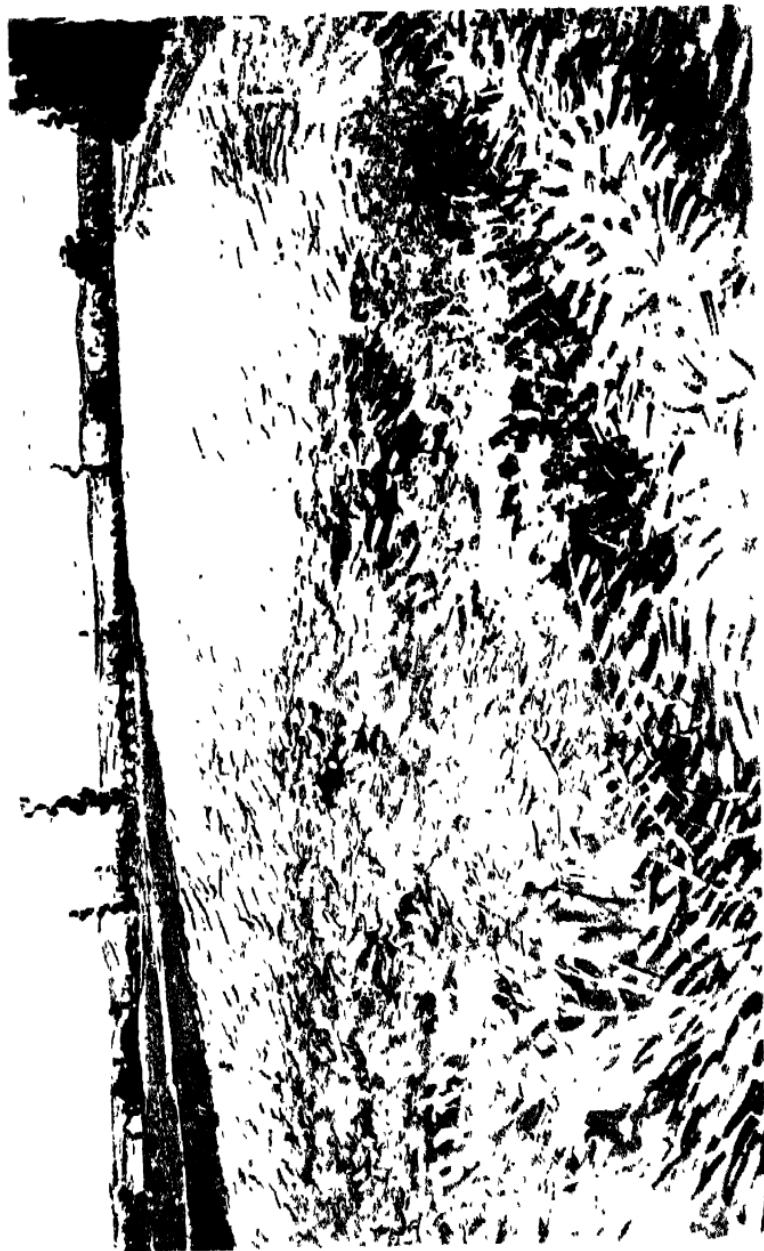
28 Michelangelo, 'Adam', detail from the ceiling of the Sistine Chapel, Rome







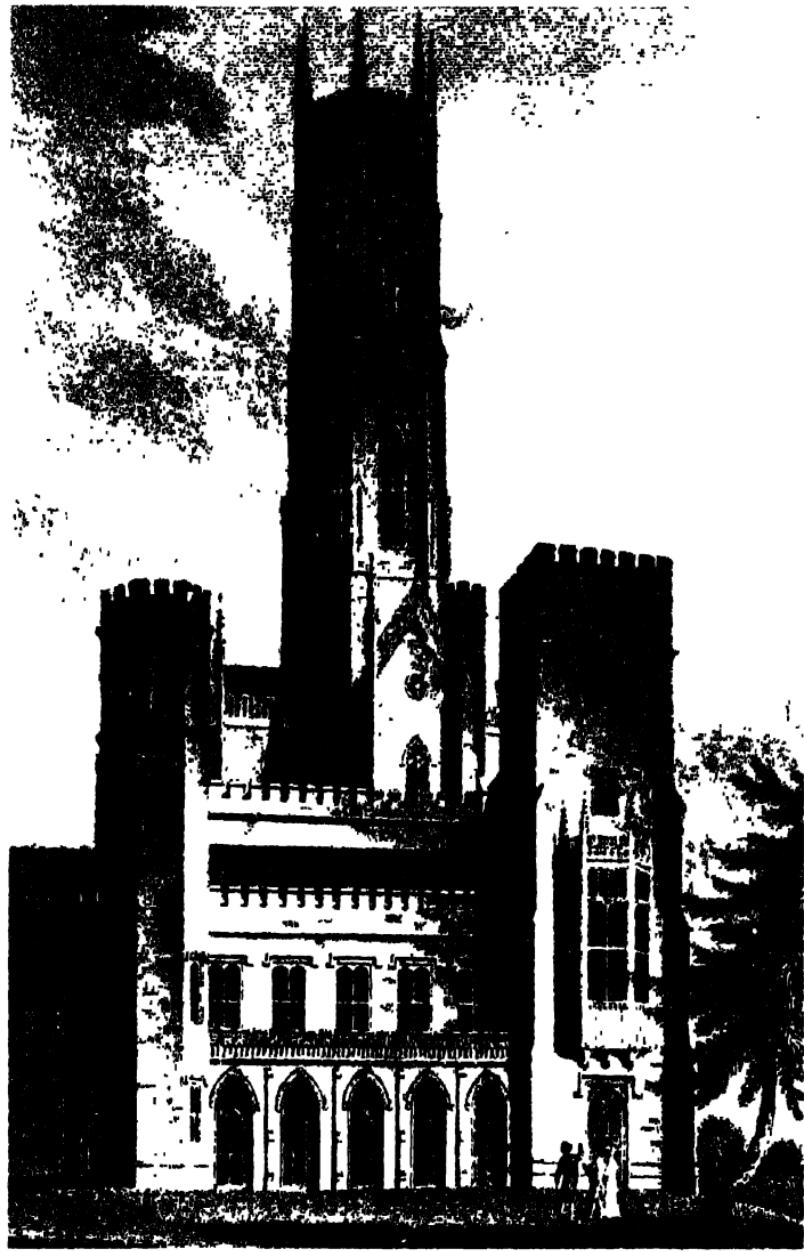
11. Linnell, 'Noonday Rest' (late Galler), London



12. Van Gogh, 'Cottontail' (�ementje Museum, Amsterdam)

33. Dufy, 'Cornfield'





34 Fonthill, from an engraving



35 Seurat, 'Le Chahut'. Rijksmuseum Kröller-Müller, Otterlo, Holland



36. Samuel Palmer, 'Cornfield'



37. 'Good Shepherd' mosaic. Mausoleum of Galla Placidia, Ravenna



18 Delacroix, 'The Good Samaritan'



39. Van Gogh, 'The Good Samaritan' after Delacroix.
Rijksmuseum Kroller-Muller, Otterlo, Holland



40. Duccio, 'Christ Appearing to the Apostles'. Siena Cathedral



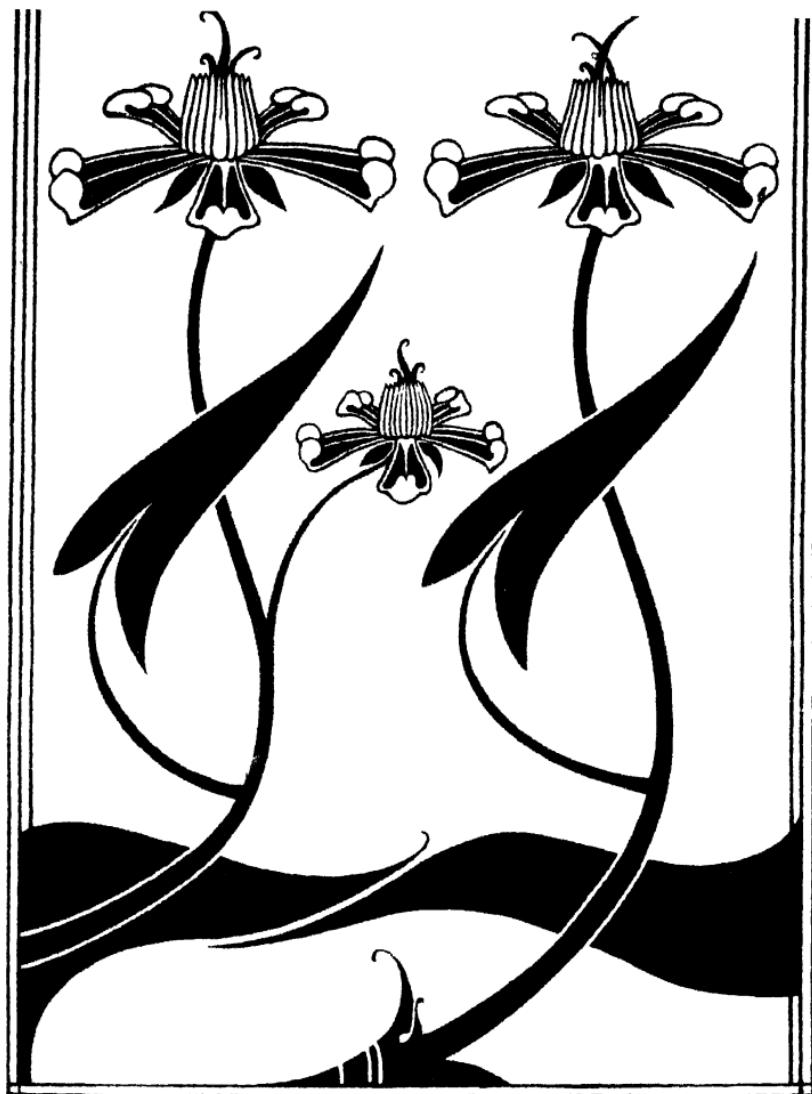
43 Pollaiuolo, 'Martyrdom of St Sebastian'. National Gallery, London



44 Bronzino: Portrait of Bartolommeo Panciatichi Uffizi Gallery, Florence



45 Rubens, Portrait of Dr Van Thulden Pinakothek Munich



46 Beardsley, design of cover of *Le Morte d'Arthur*



47 Chinese still life Bamboo Shoots From the
Funeropoulous Collection British Museum



48 Picasso, 'Still Life, 14 March

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Raphael was a product of the favourable moment. Never was the soil of civilization as rich or its climate as benign as it was in Rome between 1500 and 1510. The Venetian soil that nourished Veronese in 1560 was beginning to be impoverished. Perhaps that sufficiently explains the slight lack of balance, the slight thickening, in his case, of the outer at the expense of the inner layers.

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THERE is no need to plead for Veronese. 'Beautiful' is an easy adjective to apply to his St Catherine picture; for all its qualities - its healthy optimism, the absence in it of anything at all painful or profound or even difficult, its suavity, its luxury, and, on the purely aesthetic level, the easy swing of its composition - recommend themselves instantly to the normal eye and the normal mind. And yet when one compares the picture with an actual experience that might conceivably have occurred, how much more satisfying, for all its limitations, is the work of art. A guest, privileged to be present when a Venetian lady of fashion of the 1560s was paying a state visit to her friend, would have received a very different impression. However elaborate the architectural setting, however accomplished the winged musicians, however rich the dresses, the guest would never have summed up the experience as 'beautiful'. And yet the experience would have held far more for him than the picture. He would have heard the voices of the singing angels, the rustle of the brocaded dresses: he would have felt the wind on his cheek: his eye would have been entranced by movement as well as form. he would have heard the conversation that passed between the Virgin and her saintly visitor. The sum total of sensations and perceptions would have been far more complex and far more interesting. Why not, then, more 'beautiful'?

In so far as the answer is 'because it comes to us transmuted by Veronese's exceptional temperament', it has already been given in the last chapter. But the more fundamental answer,

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'because it is not a direct experience but a work of art', must now be elaborated a little.

The work of art is isolated, self-contained, it is separated from 'real life' by a frame, and the frame's importance is not only physical but psychological. Not only does it isolate the picture from its surroundings, but it enables one to see the picture in quite a different way from its surroundings. It is not so much that the picture is beautiful (whereas the actual event which it describes would have been merely interesting) as that the frame compels us to ask, 'Is it beautiful?' – a question one does not normally ask of life. If the actual event of St Catherine's visit in all its completeness, with the movement, the music, the spoken words, the shifting light, and the moving air, could be isolated from the rest of 'life', cut like a slice out of time and placed on a stage, within the framework of a proscenium arch, it would begin to acquire the qualities of a work of art, and as it did so, it would begin, not necessarily to acquire beauty, but to compel one to ask, 'Is it beautiful?' Unframed, considered as a random fragment of the *continuum* of existence, its beauty never comes into question. It belongs to Nature, it is merely functional. One can only ask, 'What led up to it?' and 'What were its consequences?' 'What was its meaning? Did it form a firm link between what came before it and what came after?' But as soon as it is cut out of time, isolated, framed, and placed upon a stage, given a beginning and an end, one's attitude to it changes. It becomes an object for contemplation, and according to its power to please when contemplated, it acquires beauty. If the spectator takes one single step from the auditorium of life on to the stage of art, its beauty is shattered. The frame – the dividing-line between the world of art and the world of life, between the world of contemplation and the world of action – has been violated, and the essence of a frame is that it should be inviolable. Outside the frame is the shifting, growing, dying

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world of which the spectator himself is an integral part; he may choose to be an impassive spectator, but at any moment he is at liberty to plunge into the action, join in the song, offer his aim to the visitor ascending the steps. However impassive he may choose to be, he is still involved in the life around him. Hamlet's insistence on the experiment of the stage-play is the creative artist's insistence on the isolating frame. As long as his mother and his uncle are involved in the untidy comings and goings of real life, there is no hope of isolating and examining their consciences. But by presenting the King with a work of art, his conscience can be caught. Only the King's call of 'Give me some light Away' can break the frame and end the experiment. Inside the frame is a permanent world created by another man, purged of every trace of conscience. The eternal flow of cause and effect, of suffering and joy, has been emptied out of it.

It is this very capacity to isolate itself from the world of action and to appeal only to the contemplative faculty in the spectator that makes its impact on him so intense, and makes him so acutely conscious of its beauty or lack of beauty.

The central characteristic of beauty is that it is always an end in itself and never a means to an end. Its very essence consists in its being useless. Every other value in life is desirable because it leads to something more desirable. Beauty alone is intrinsically desirable, and only the contemplative faculty can assess its desirability.

Often enough it becomes so entangled with the life of action that its uselessness is not easy to recognize, but a moment's thought will disentangle it. The taste and texture of food and wine, for example, are so involved with their nutritive value that one is apt to forget that hunger for food is not at all the same as a desire for the taste of food. It is only the delicious sensation, the pleasure of the palate, that can be regarded as aesthetic. The usefulness of food, its purely

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physiological aspect, has nothing to do with contemplation, the and professional wine taster, in his endeavour to isolate the aesthetic aspect of the wine he tastes, refuses to swallow it, knowing that by doing so he violates the sanctity of the frame, mixes a physiological with an aesthetic process. For the general purposes of living it is extremely convenient to be able to do so, but whoever is going to specialize in aesthetics must, in the practice of his profession, avoid the mixture.

If the reader doubts this ultimateness or uselessness of beauty, he has only to follow the track of any action involving human motive to discover where it leads. Ask any man why he has acted in such and such a manner, and in the end he will be forced to admit that it was in order to enjoy beauty. Beyond that he cannot go. He works for money. He spends the money on *recreation*. He uses the car when he is not using it to take him to a place where he can earn more money — to transport himself to a more desirable place. The place is more desirable because it is more beautiful. To every 'why?' — 'why do you work?' — 'why do you want money?' — 'why do you want a car, food, clothing, a gas-stove?' he has an answer. But to the question, 'Why do you want beauty?' he has no answer. Beauty is utterly useless, because it is a stepping-stone to nothing. It is absolutely desirable, because it satisfies the ultimate appetite.

Even Truth and Goodness, usually bracketed with it by philosophers as absolutes, are more functional. Both are means to desirable ends. Without Truth there would be confusion; without Goodness there would be pain. And both pain and confusion interfere with the life of action. To eliminate them by the pursuit of Truth and Goodness is to use Truth and Goodness as means to a more desirable state of things. But because beauty can never be a means, but only the end to which all means are directed, it must be isolated from all other values. And when man, in his capacity as artist, tries to